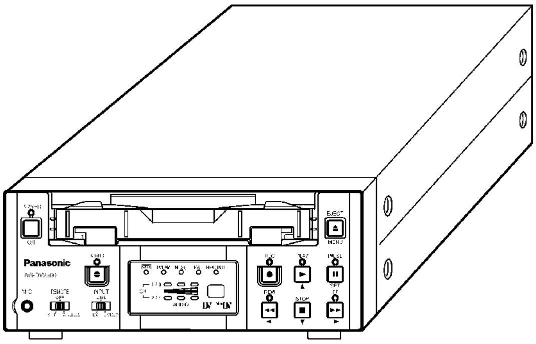
ORDER NO. BSD0303M901
D21

Service Manual

DV VIDEO CASSETTE RECORDER

DV Mini DV

AG-DV2500P / AG-DV2500E



⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Please refer to the Operating Instructions in the appendix folder. / (Go to Appendix List)

Panasonic

AG-DV2500P

■ General

Recording system: DV system (SP mode only)
Signal system : NTSC/PAL
Cassette : Standard/ mini DV cassette
Tape width : 6.35mm
Tape speed : 18.812mm/s (NTSC)
18.831mm/s (PAL)
Recording/ playback time
: 276 minutes (DV276)
63 minutes (DVM63)
Fast forward/ rewind time
: About 3 minutes (DV276)
About 1 minute (DVM63)
Power : DC12V⎓(supplied via the provided AC adapter)
Power consumption: 14W, 1.17A
External dimension : 174mm × (W) ×68mm (H) ×260mm (D) (Excluding protruding parts, e.g., foot)
Weight : About 2.3 kg
Allowable operating temperature
: 5˚C to 35˚C
Allowable storage temperature
: –20˚C to 60˚C
Allowable operating RH
: 30%RH to 80%RH

■ Video

Recording format: 8 bit, 13.5MHz,
4:1:1 (NTSC)
4:2:0 (PAL)
Video input
Line (composite) : 1.0V (p-p), 75Ω unbalance
S-VIDEO Y : 1.0V (p-p), 75Ω unbalance
C : 0.286V (p-p) (NTSC) /
0.3V (p-p) (PAL)
75Ω unbalance
Video output
Line (composite) : 1.0V (p-p), 75Ω unbalance
S-VIDEO Y : 1.0V (p-p), 75Ω unbalance
C : 0.286V (p-p) (NTSC) /
0.3V (p-p) (PAL)
75Ω unbalance

■ Audio

Recording format : 16 bit, 48kHz, 2 channels PCM audio/12 bit, 32kHz, 4-channel PCM audio
Number of track : 2 (16 bit,4 8kHz) /
4 (12 bit, 32kHz)
Audio input : –8dBu, 10kΩ unbalance
Mike input : –60dBu, 3kΩ unbalance
Audio output : –8dBu, 1kΩ unbalance
Frequency characteristics
: 20Hz to 20kHz (48kHz)
* 0 dBu = 0.775Vrms

■ DV interface

Input/output : IEEE1394

■ AC adapter section

Power : AC 100V to 240V∿,
50Hz/60Hz.
Power consumption
: 1.0A to 0.5A
Output : DC 12V ⎓ 3.5A

■ Accessories

Wireless remote controller	×1
AC adapter	×1
Mains Cable	×1
Battery(AA)	×2
Stand	×1

AG-DV2500E

■ General

Recording system: DV system (SP mode only)
Signal system : NTSC/PAL
Cassette : Standard/ mini DV cassette
Tape width : 6.35mm
Tape speed : 18.812mm/s (NTSC)
18.831mm/s (PAL)
Recording/ playback time
: 276 minutes (DV276)
63 minutes (DVM63)
Fast forward/ rewind time
: About 3 minutes (DV276)
About 1 minute (DVM63)
Power : DC12V⎓(supplied via the provided AC adapter)
Power consumption: 14W, 1.17A

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Recording format : 16 bit, 48kHz, 2 channels PCM audio/12 bit, 32kHz, 4-channel PCM audio
Number of track : 2 (16 bit,4 8kHz) /
4 (12 bit, 32kHz)
Audio input : –8dBu, 10kΩ unbalance
Mike input : –60dBu, 3kΩ unbalance
Audio output : –8dBu, 1kΩ unbalance
Frequency characteristics
: 20Hz to 20kHz (48kHz)
* 0 dBu = 0.775Vrms

■ DV interface

Input/output : IEEE1394

■ AC adapter section

Power consumption: 14W, 1.17A
External dimension : 174mm × (W) ×68mm (H) ×260mm (D) (Excluding protruding parts, e.g., foot)
Weight : About 2.3 kg
Allowable operating temperature : 5°C to 35°C
Allowable storage temperature : –20°C to 60°C
Allowable operating RH : 30%RH to 80%RH

■ Video

Recording format : 8 bit, 13.5MHz,
4:1:1 (NTSC)
4:2:0 (PAL)

Video input
Line (composite) : 1.0V (p-p), 75Ω unbalance
S-VIDEO Y : 1.0V (p-p), 75Ω unbalance
C : 0.286V (p-p) (NTSC) /
0.3V (p-p) (PAL)
75Ω unbalance

Video output
Line (composite) : 1.0V (p-p), 75Ω unbalance
S-VIDEO Y : 1.0V (p-p), 75Ω unbalance
C : 0.286V (p-p) (NTSC) /
0.3V (p-p) (PAL)
75Ω unbalance

■ AC adapter section

Power : AC 100V to 240V∿, 50Hz/60Hz.
Power consumption : 1.0A to 0.5A
Output : DC 12V ⎓ 3.5A

■ Accessories

Wireless remote controller	×1
AC adapter	×1
Mains Cable	×2
Battery(AA)	×2
Stand	×1

SAFETY PRECAUTIONS

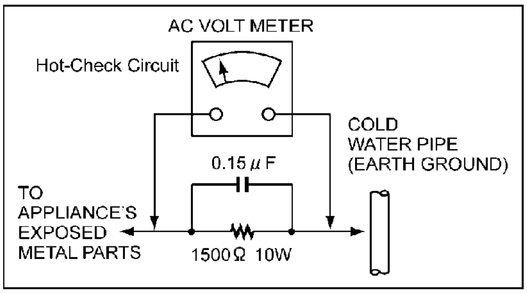
GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short / circuit is found, replace all parts which have been over-heated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohm meter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. The resistance value must be more than 5M Ω .

Figure1



LEAKAGE CURRENT HOT CHECK (See Figure 1)

1. **Plug the AC cord directly into the AC outlet. / Do not use an isolation transformer for this check.**
2. **Connect a 1.5k Ω , 10W resistor, in parallel with a 0.15 μ F capacitor, between each exposed metallic part on the set an a good earth ground such as a water pipe, as shown in Figure1.**
3. **Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.**
4. **Check each exposed metallic part, and measure the voltage at each point.**
5. **Reverses the AC plug in the AC outlet repeat each of the above measurements.**
6. **The potential at any point should not exceed 0.15 volts RMS. A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks, leakage current must not exceed 0.1 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and checked before it is returned to the customer.**

ABOUT LEAD FREE SOLDER (PbF)

Distinction of Pbf PCB:
PCBs (manufactured) using lead free solder will have a PbF stamp on the PCB.

Caution:

1. **Pb free solder has a higher melting point than standard solder;**

Typically the melting point is 50-70°F (30-40°C) higher. Please use a high temperature soldering iron. In case of the soldering iron with temperature control, please set it to 700±20°F (370±10°C).

2. Pb free solder will tend to splash when heated too high (about 1100°F /600°C).

ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically sensitive (ED) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor “chip” components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. / Alternatively, obtain and wear a commercially available discharging wrist trap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device classified as “anti-static” can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. / (most replacement ES devices are package with leads electrically shorted together by conductive foam, aluminum foil or comparable

conductive material).

7. **Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed. / CAUTION : Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.**
8. **Minimize bodily motions when handling unpacked replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).**

X-RADIATION

WARNING

1. **The potential source of X-radiation in EVF sets is the High Voltage section and the picture tube.**
2. **When using a picture tube test jig for service, ensure that jig is capable of handling 10kV without causing x-radiation.**

Note :
It is important to use an accurate periodically calibrated high voltage meter.

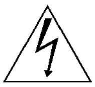
3. **Measure the High Voltage. The meter (electric type) reading should indicate 2.5kV, 0.15kV. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure. To prevent an x-radiation possibility, it is essential to use the specified picture tube.**

AG-DV2500P

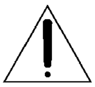
CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

This unit should be used with 120 V AC only.

CAUTION:
To prevent electric shocks and fire hazards, DO NOT use any other power source.

INFORMATION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION

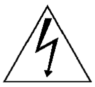
CHANGES OR MODIFICATIONS NOT APPROVED BY PANASONIC COULD VOID USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

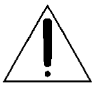
ATTENTION

RISQUE D'ELECTROCUTION
NE PAS OUVRIR

ATTENTION: POUR EVITER TOUT RISQUE D'ELECTROCUTION
NE PAS OUVRIR LE BOITER.
AUCUNE PIECE INTERIEURE N'EST
A REGLER PAR L'UTILISATEUR.
SE REFERER A UN AGENT QUALIFIE EN CAS DE PROBLEME.



Le symbole de l'éclair à l'intérieur d'un triangle équilatéral est destiné à alerter l'utilisateur sur la présence d'une "tension dangereuse" non isolée dans le boîtier du produit. Cette tension est suffisante pour provoquer l'électrocution de personnes.



Le point d'exclamation à l'intérieur d'un triangle équilatéral est destiné à alerter l'utilisateur sur la présence d'opérations d'entretien importantes au sujet desquelles des renseignements se trouvent dans le manuel d'instructions.

*Ces symboles ne sont utilisés qu'aux Etats-Unis.

AVERTISSEMENT:
POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, NE PAS EXPOSER L'APPAREIL A L'HUMIDITE OU A LA PLUIE.

Ce magnétoscope ne doit être utilisé que sur du courant alternatif en 120 V.

ATTENTION:
Afin d'éviter tout resque d'incendie ou d'électrocution, ne pas utiliser d'autres sources d'alimentation électrique.

WARNING:
The battery used in the AG-DV2500P must be replaced by a PANASONIC authorized service dealer only.

AVERTISSEMENT:
La pile utilisée dans l'appareil AG-DV2500P doit être remplacée chez un marchand de services autorisé par PANASONIC.

The Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numerique de la Classe B est conforme a la nonne NMB-003 du Canada.

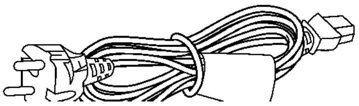
L'appareil digital (Classe B) est conforme à l'ICES-003 canadien.

AG-DV2500E

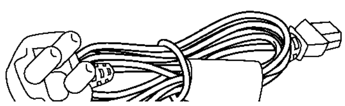
Caution for AC Mains Lead

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.
This product is equipped with 2 types of AC cable. One is for continental Europe, etc. and the other one is only for U.K. Appropriate mains cable must be used in each local area, since the other type of mains cable is not suitable.

FOR CONTINENTAL EUROPE, ETC.
Not to be used in the U.K.



FOR U.K. ONLY
If the plug supplied is not suitable for your socket outlet, it should be cut off and appropriate one fitted.



FOR U.K. ONLY

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 13 amp fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 13 amps and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark or the BSI mark on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

WARNING : THIS APPLIANCE MUST BE EARTHED.
IMPORTANT : The wires in this mains lead are coloured in accordance with the following code:

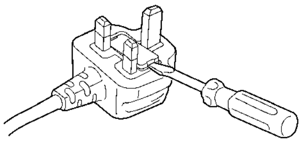
Green-and-Yellow : Earth
Blue : Neutral
Brown : Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

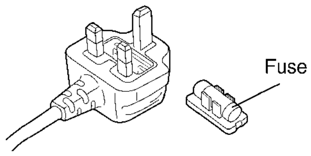
- The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the Earth symbol or coloured GREEN or GREEN-AND-YELLOW.
- The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.
- The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

How to replace the fuse

1. Open the fuse compartment with a screwdriver.



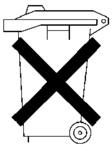
2. Replace the fuse.



Warning Notice
FOR YOUR SAFETY

1. Insert this plug only into effectively earthed three-pin power outlet.
2. If any doubt exists regarding the earthing, consult a qualified electrician.
3. Extension cord, if used, must be three-core correctly wired.

Attention/Attentie



- Batteries are used for memory back-up in the product and remote controller.
  At the end of their useful life, you should not throw them away.
  Instead, hand them in as small chemical waste.
- Baterrijen zijn gebruik gemaak voor inladen van geheugen voor allerlei producten onder ander afstandbediening.
  Wanneer de batterij niet meer beruikbaar is, mag u deze niet gewoon weggooien, maar dient u ze als klein chemisch afval weg te doen.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION
To prevent electric shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified service personnel.

The POWER button does not completely shut off mains power from the unit, but switches operating current on and off.

WARNING
It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast, or cable programme and in any literary, dramatic, musical or artistic work embodied therein.

1. Service Information

2. Mechanical Adjustments

3. Electrical Adjustments

4. Technical Description

5. Block Diagrams/Schematic Diagrams/Circuit Board Diagrams

NOTE
BE SURE TO MAKE YOUR ORDERS OF REPLACEMENT PARTS ACCORDING TO PARTS LIST.

CAUTION
THE □ MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT. / PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAI SERVICE OF THE PRODUCTS.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. / WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

5.1. INDEX TO PAGES OF MAIN BOARDS AND CIRCUIT BOARD LOCTION

5.1.1. Circuit board location

5.2. SYSTEM CONTROL BLOCK DIAGRAM

5.3. VIDEO BLOCK DIAGRAM

5.4. AUDIO BLOCK DIAGRAM

5.5. OVERALL WIRING DIAGRAM

5.6. DV UNIT OVERALL WIRING DIAGRAM

5.7. MAIN SCHEMATIC DIAGRAM

5.8. MAIN CIRCUIT BOARD

5.9. DV/CPU SCHEMATIC DIAGRAM

5.10. DV/CPU CIRCUIT BOARD

5.11. MDA/DC CIRCUIT BOARD

5.12. MDA/DC SCHEMATIC DIAGRAM

5.13. FDM (FRONT, DV CONN & MIC) SCHEMATIC DIAGRAMS

5.14. FDM (FRONT, DV CONN & MIC) CIRCUIT BOARDS

5.15. MECHA & MECHA CONN SCHEMATIC DIAGRAMS

5.16. MECHA & MECHA CONN CIRCUIT BOARDS

5.17. IC BLOCK DIAGRAMS

6. Mechanical Replacement Parts List & Exploded Views

NOTE:

1. **Be sure to make your orders of replacement parts according to this list.**
2. **Unless otherwise specified, all resistors are in OHMS, K=1,000 OHMS, all capacitors are in MICR**
   (μ F), P= μ μ F.
3. **The P.C. Board unit marked with " ■ " shown below the main assembled parts.**
4. **The parts marked with Ⓔ on the exploded view show the electric parts.**
5. **IMPORTANT SAFETY NOTICE**
   Components identified with the mark ⚠ have the special characteristics for safety. When re
   any of these components, use only the same type.
6. **The marking (RTL) indicates the retention time is limited for this item. / After the discontinuatio**
   assembly in production, it will no longer be available.
7. **"(M)" in Remark column indicates needed in the periodical maintenance.**

7. Electrical Replacement Parts List

NOTE:

1. **Be sure to make your orders of replacement parts according to this list.**
2. **Unless otherwise specified, all resistors are in OHMS, K=1,000 OHMS, all capacitors are in MICR**
   (μ F), P= μ μ F.
3. **The P.C. Board unit marked with " ■ " shown below the main assembled parts.**
4. **The parts marked with Ⓔ on the exploded view show the electric parts.**
5. **IMPORTANT SAFETY NOTICE**
   Components identified with the mark ⚠ have the special characteristics for safety. When re
   any of these components, use only the same type.
6. **The marking (RTL) indicates the retention time is limited for this item. / After the discontinuatio**
   assembly in production, it will no longer be available.
7. **“(M)” in Remark column indicates needed in the periodical maintenance.**

NOTE:

A list of parts is stored in data form in the CD-ROM. It is located within the folder APPENDIX/PARTS. Please use as necessary.

8. PDF for Printing

The PDF documents for printing consist of several files per section.Open every section (file) through a link (blue frame) on the cover.

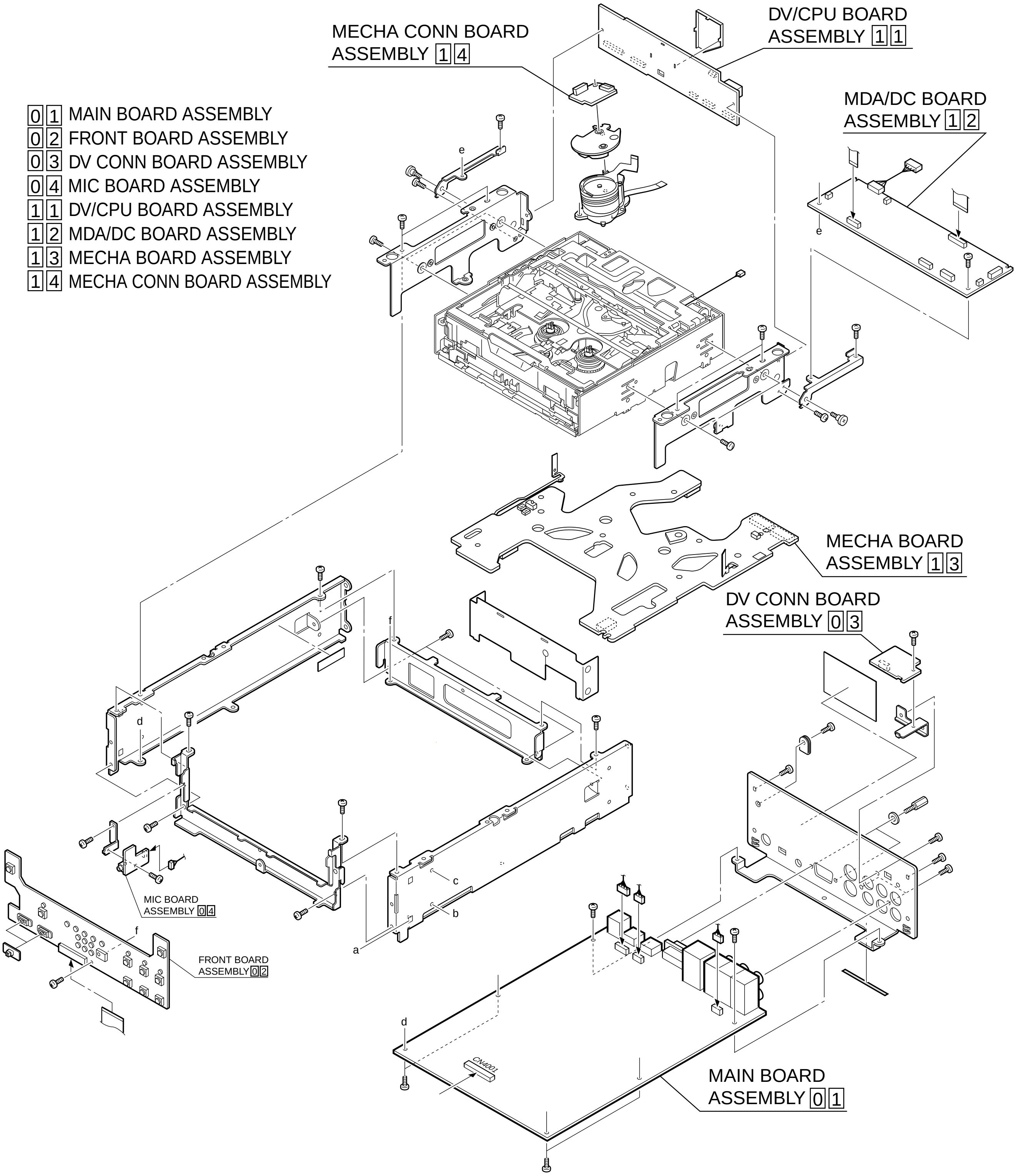
● Setting of Acrobat Reader

To view a link in a new window, follow the procedure below. When you operate the PDF documents
printing, you can open a PDF file of each section while displaying the cover page. This is convenie
the PDF files in several sections.

<How to set> In the [File] menu, select [Preference] - [General...] and disable [Open Cross-Doc Link
Window].

SECTION 1
SERVICE INFORMATION

1.1 CONSTRUCTION OF THE MAIN BOARD


01 MAIN BOARD ASSEMBLY
02 FRONT BOARD ASSEMBLY
03 DV CONN BOARD ASSEMBLY
04 MIC BOARD ASSEMBLY
11 DV/CPU BOARD ASSEMBLY
12 MDA/DC BOARD ASSEMBLY
13 MECHA BOARD ASSEMBLY
14 MECHA CONN BOARD ASSEMBLY
MECHA CONN BOARD ASSEMBLY 14
DV/CPU BOARD ASSEMBLY 11
MDA/DC BOARD ASSEMBLY 12
e
e
MECHA BOARD ASSEMBLY 13
DV CONN BOARD ASSEMBLY 03
f
d
MIC BOARD ASSEMBLY 04
f
FRONT BOARD ASSEMBLY 02
c
b
a
d
CN4001
MAIN BOARD ASSEMBLY 01

1.2 HOW TO REMOVE THE OUTER COVER

1.2.1 Top cover

(1) Remove the four screws ①.
(2) Remove the top cover while lifting the rear part of it.

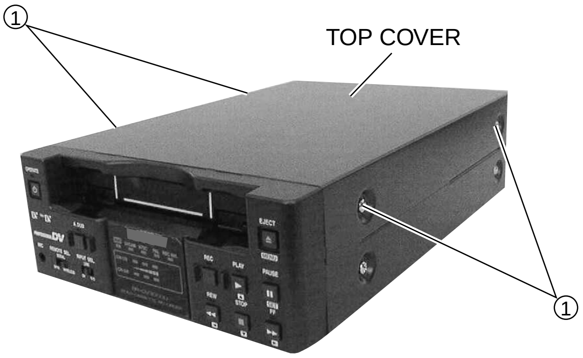


Fig. 1.2.1

1.2.2 Bottom cover

(1) Remove the four screws ②.
(2) Remove the bottom cover while lifting the rear part of it.

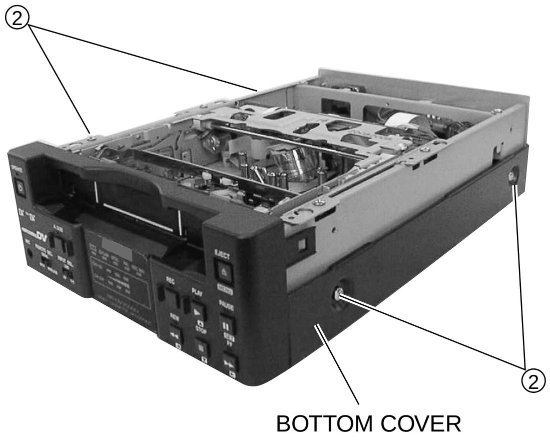


Fig. 1.2.2

1.2.3 Front panel

(1) Remove the top and bottom covers
(2) Remove the front panel while releasing the four hooks ①.

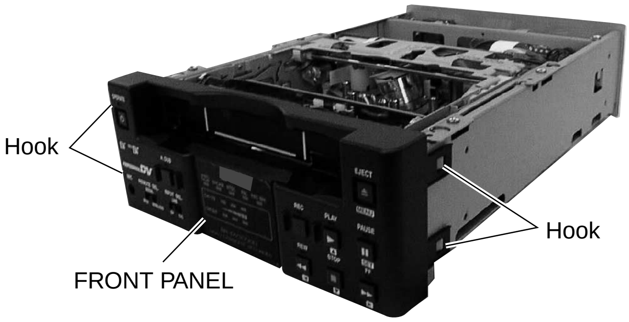


Fig.1.2.3

1.3 HOW TO REPLACE THE FUSE

(1) Unplug the DC power cable before replace the fuse.
(2) Remove the top cover.
(3) Find the fuse F1 on the MDA/DC board.

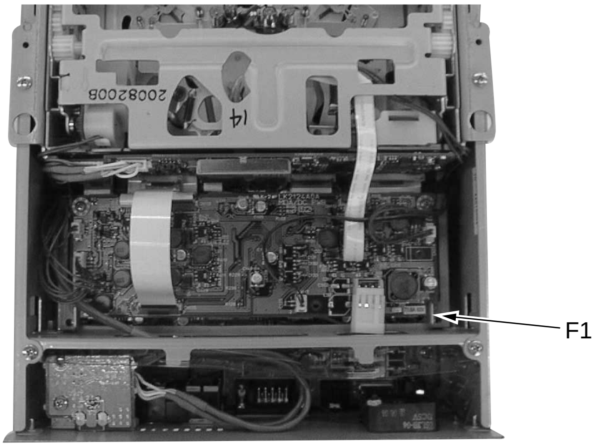


Fig. 1.3.1

CAUTION

- Before replacing the fuse, investigate and identify the cause of the blow out to prevent further damage.
- The fuse is an important item for safety . Please be sure to replace it with a fuse that has the specified parts numbers.

1.4 HOW TO EXAMINE THE BOARDS

1.4.1 MAIN board assembly

(1) Remove the bottom cover to examine the B-side of the main board.

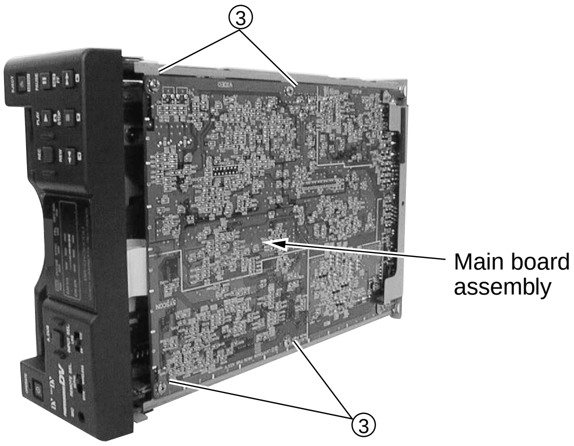

③
Main board assembly
③

Fig. 1.4.1 (1)

(2) Remove the four screws ③ to examine the A-side.
(3) Remove the two screws ④ on the rear cover.
(4) Pull down the main board as shown in fig. 1.4.1 (3).

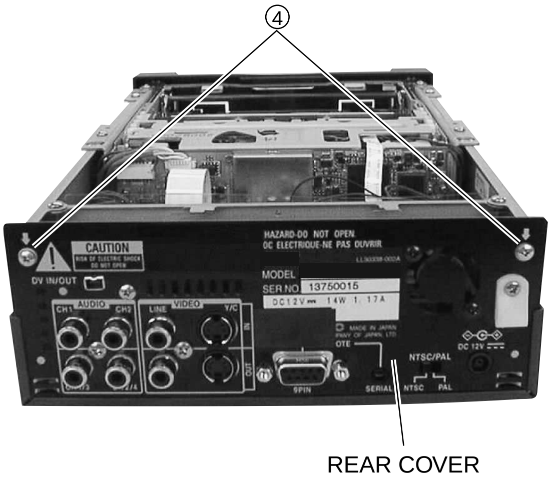
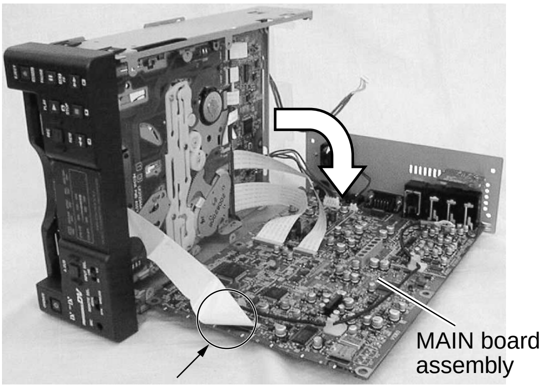

④
REAR COVER

Fig. 1.4.1 (2)


MAIN board assembly

Keep a distance to a minimum from the unit, because this FFC cable may be damaged.

Fig. 1.4.1 (3)

1.4.2 MDA/DC board assembly

(1) Remove the top cover to examine the A-side.
(2) To examine the B-side, pull down the main board as shown in Fig. 1.4.2 (2).

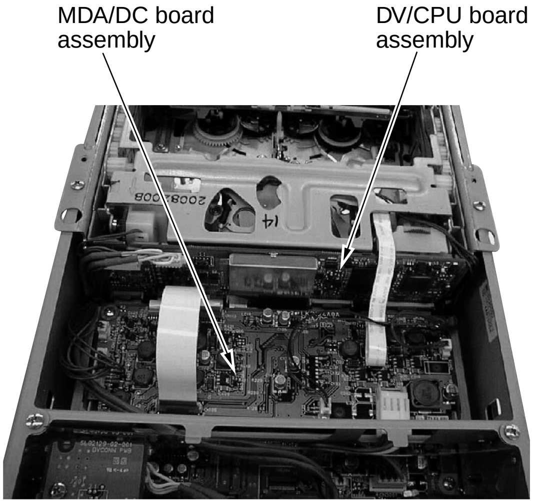

MDA/DC board assembly
DV/CPU board assembly

Fig. 1.4.2 (1)

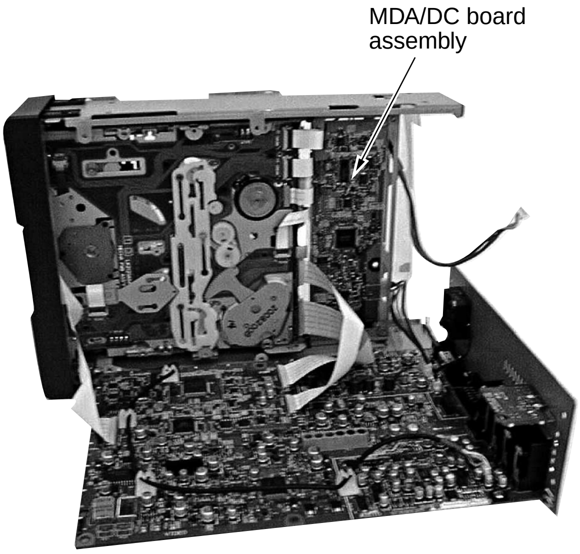

MDA/DC board assembly

Fig. 1.4.2 (2)

1.4.3 DV/CPU board assembly

(1) Remove the top cover as shown in Fig. 1.4.2 (1) to examine the DV/CPU board.

1.4.4 FRONT board assembly

(1) Remove the front panel to examine the front board.
(2) Remove the screw ⑤, and pull the board down to examine the B-side.

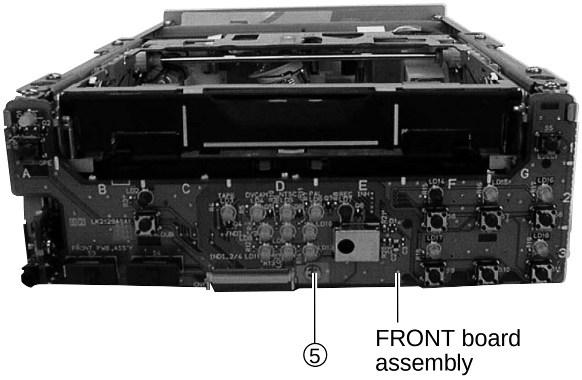

⑤
FRONT board assembly

Fig. 1.4.4

1.5 HOW TO REMOVE THE MECHANISM UNIT

(1) Remove the six screws ⑥.
(2) Remove the front panel.
(3) Remove the CN111 connector on the MDA/DC board.
(4) Remove the wire that are attached to the DV CONN board.

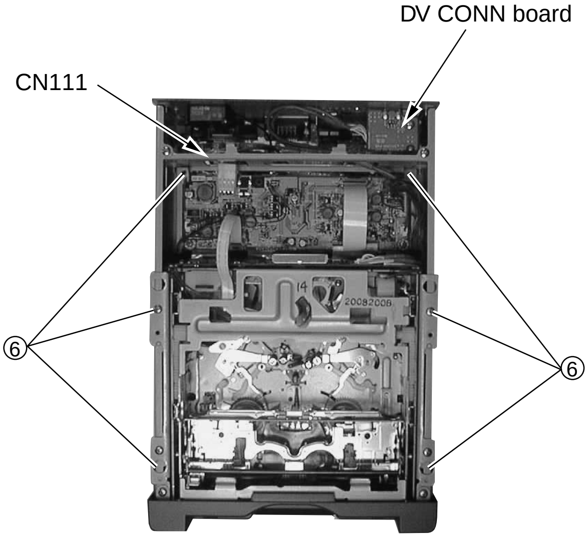

DV CONN board
CN111
⑥
⑥

Fig. 1.5.1

(5) Pull up the mechanism unit.
(6) Remove CN4002 and CN4003 (FFC cables connected to the main board).

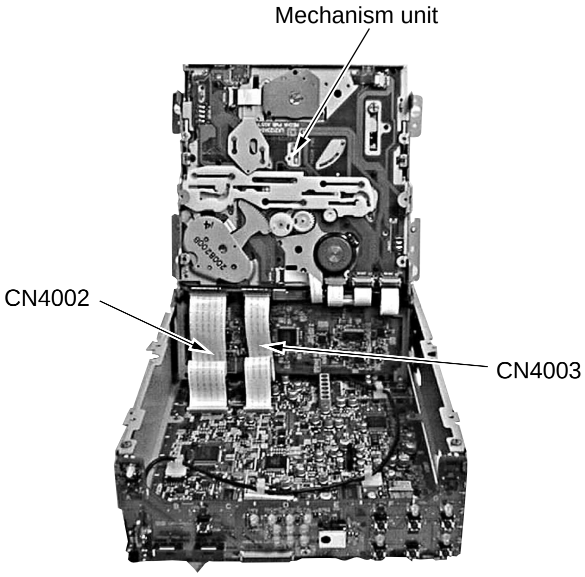

Mechanism unit
CN4002
CN4003

Fig. 1.5.2

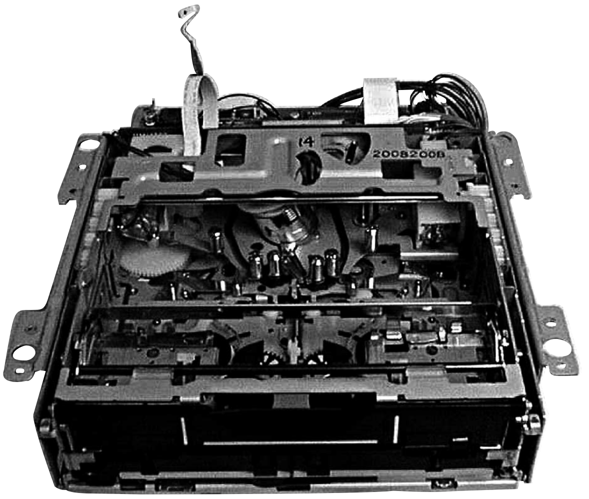


Fig. 1.5.3

1.6 HOW TO REMOVE THE MECHANISM ASSEMBLY

To remove only the mechanism assembly from the mechanism unit.

(1) Remove the shield case on the DV/CPU board and remove the CN107 FPC wire from the drum assembly.

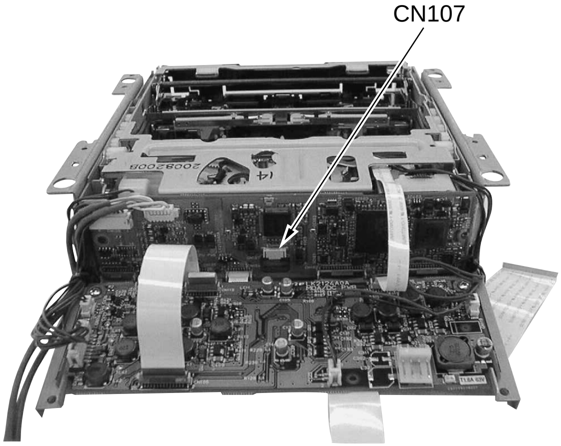


Fig. 1.6.1

(2) Remove the FFC wires that connects the mechanism board, which is mounted on the backs of the mechanism assembly, MDA/DC board, and the DV/CPU board.
(3) Remove the four screws ⑦ on the side.
(4) Remove the mechanism assembly as shown in Fig. 1.6.3.

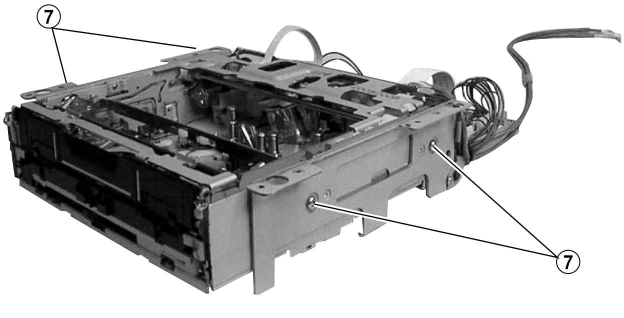


Fig. 1.6.2

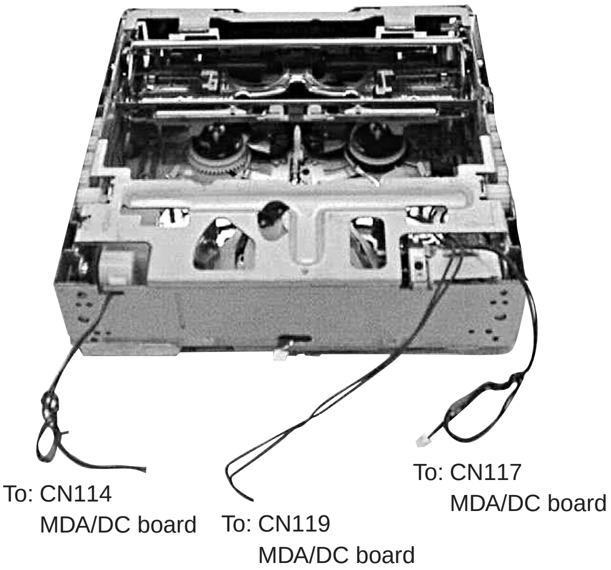

To: CN114
MDA/DC board
To: CN119
MDA/DC board
To: CN117
MDA/DC board

Fig. 1.6.3 Mechanism assembly

For instructions on disassembling each part of the mechanism assembly, please refer to the Section 2.

1.7 HOW TO TAKE OUT THE CASSETTE TAPE IN CASE OF EMERGENCY

An emergency system on this unit enables the cassette tape to be taken out manually.
When a cassette tape is stuck, take it out as described below.

Procedure

1. Gear Ⓐ : Emergency gear for MODE MOTOR
2. Gear Ⓑ : Emergency gear for REEL MOTOR
3. Gear Ⓒ : Emergency gear for HOUSING MOTOR

(1) In order to turn the mode motor, turn the gear Ⓐ (red color) in the direction of the arrow. While turning the gear also push it in to drive loading / unloading.

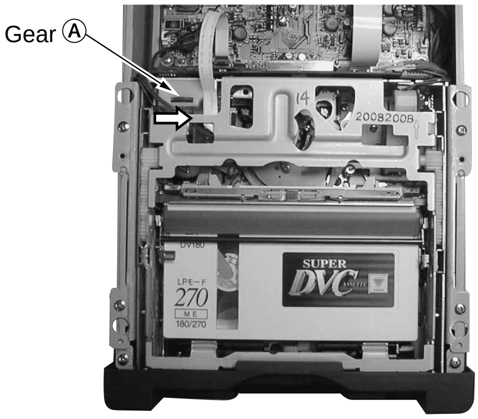


Fig. 1.7.1

(2) To wind the tape, when the tape is loosened a little, put a screw driver in the emergency gear Ⓑ, which drives the reel. (The drive direction does not matter.)

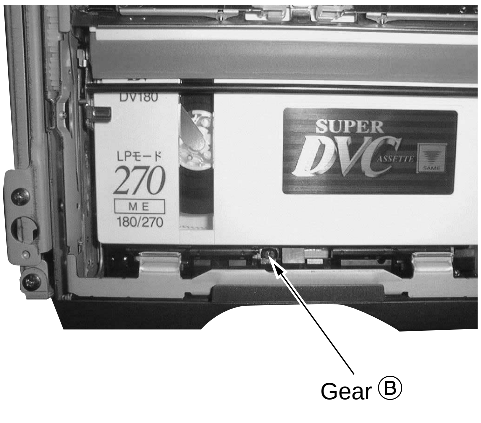


Fig. 1.7.2

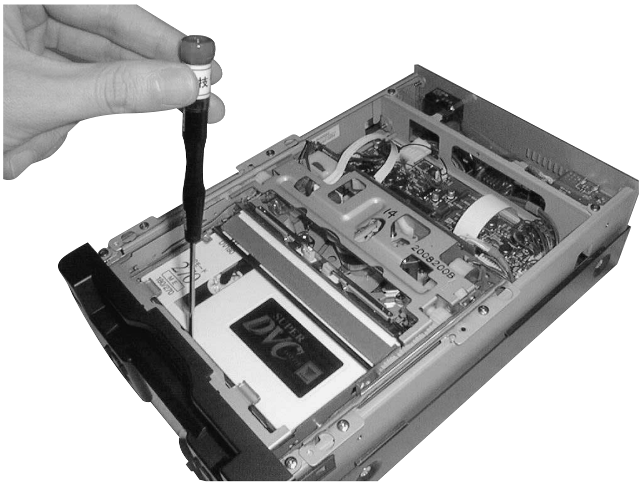


Fig. 1.7.3

(3) Repeat steps (1) and (2) alternately and little by little until the tape is wound completely into the cassette.

(4) Confirm that the tape is completely wound. Then, turn the gear Ⓒ (red color) in the direction of the arrow to eject the cassette housing. Take the cassette out when it comes out of the loading slot.

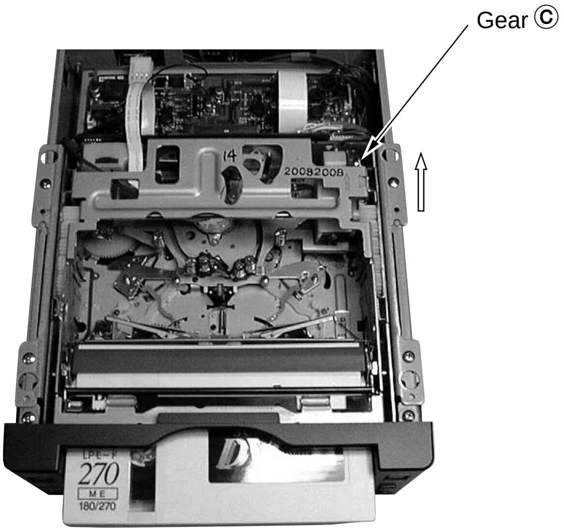


Fig. 1.7.4

1.8 SERVICE MENU

1.8.1 How to display the Service Menu

In no cassette condition, by pressing the MENU button for 2 seconds or longer while keeping either the REC or PLAY button pressed, the first tier of the Service Menu will be displayed on the video monitor . As shown in Table 1.8.1, the Service Menu content that is displayed will differ depending on which buttons you press together simultaneously.

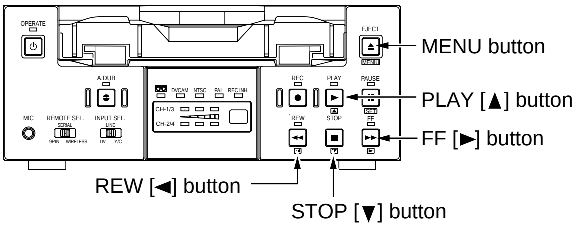

OPERATE
EJECT
MENU
MENU button
A.DUB
DVCAM
NTSC
PAL
REC INH.
CH-1/3
CH-2/4
REC
PLAY
PAUSE
SET
PLAY [▲] button
MIC
REMOTE SEL.
SERIAL
9PIN
WIRELESS
INPUT SEL.
LINE
DV
Y/C
REW
STOP
FF
FF [▶] button
REW [◀] button
STOP [▼] button

Fig. 1.8.1 (1) Front Panel

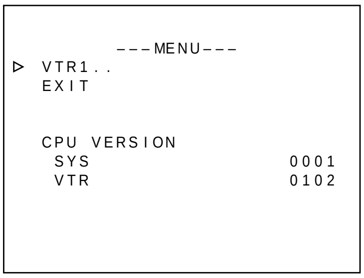
Item	Displayed Content	Activation Method	
		REC	PLAY
VTR1 MENU	VCR 1 Menu	○	○
VTR2 MENU	VCR 2 Menu	—	○
DIP SW	DIP SW Menu	—	○
HOUR METER	Hour Meter	—	○
ERROR HISTORY	Warning History	—	○
OTHERS	MENU SAVE etc.	—	○
CPU VERSION	CPU Version	○	—

Table 1.8.1 Service Menu First Tier List

1.8.2 How to operate the Menu

① Press the ▲ or ▼ button on the front panel to move the cursor to the mode you want to change.
② Press the [SET] (or ► button) to select the item.
③ Press the ▲ or ▼ button to change the parameter.
④ When finished making the change, press the [SET] button. The parameter stops blinking when the change has been confirmed. (Returning using the ◄ button or [MENU] button causes the setting to revert to the status prior to the change.)
⑤ When all settings are completed, move the cursor to “PAGE BACK” and press the [SET] button to return to the MENU screen.

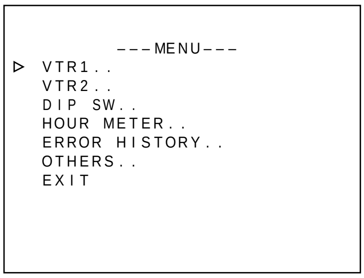
* If the ◄ button is pressed when the parameter is not blinking, it returns to the main screen.
* If the [MENU] button is pressed, it returns to the normal screen.



```
        ---MENU---
▷ VTR1..
  EXIT


  CPU VERSION
   SYS                  0001
   VTR                  0102
```

Fig. 1.8.2 (1) Menu Screen
(with REC pressed simultaneously)



```
        ---MENU---
▷ VTR1..
  VTR2..
  DIP SW..
  HOUR METER..
  ERROR HISTORY..
  OTHERS..
  EXIT
```

Fig. 1.8.2 (2) Menu Screen
(with PLAY pressed simultaneously)

1.8.3 VTR 1 menu

Item	Parameter	
REC REPEAT	$\boxed{\text{OFF}}$	No repeat recording
	2	Repeat recording 2 times
	12	Repeat recording 12 times
	ON	Full repeat recording
FOOT SW LEVEL	LEVEL1	Possible from any mode
	$\boxed{\text{LEVEL2}}$	Possible only from STOP or REC PAUSE mode
MIC REC CH	NORMAL	Record input signal from connected MIC only on CH2 (CH4 : during A.DUB mode)
	CH1-MIX	[No recording mode]. Do not record input signal from connected MIC on CH1/CH2 (No recording on CH3+4 during A.DUB)
	$\boxed{\text{CH2-MIX}}$	Record input signal from connected MIC on CH1/CH2 (CH3/CH4 during A.DUB)
ID 422 (H)	$\boxed{\text{F0}}$	High Device ID (00~FF). First bit is fixed at PAL1, NTSC0
ID 422 (L)	$\boxed{\text{4E}}$	Low Device ID (00~FF)
FF/REW SPEED	x50	Maximum FF/REW speed is regulated to x50
	x75	Maximum FF/REW speed is regulated to x75
	$\boxed{\text{x100}}$	Maximum FF/REW speed is regulated to x100
	MAX	No maximum FF/REW speed regulation
DV DF MASK (PAL only)	$\boxed{\text{OFF}}$	“1” is recorded as per format
	ON	“0” is always recorded

☐ is default setting when shipped from factory.

Table 1.8.3 VTR 1 Menu Setting Item List

1.8.4 VTR 2 menu

Item	Parameter	
LONG PAUSE	OFF	Disables long pause function
	$\boxed{\text{ON}}$	Enables long pause function
REC MODE	$\boxed{\text{SP}}$	SP recording
	LP	LP recording (Do not change since performance cannot be guaranteed)
LP WARNING	OFF	LP INH not displayed (Enables playback with LP mode) (Do not change since performance cannot be guaranteed)
	$\boxed{\text{ON}}$	LP INH displayed (Disables playback with LP mode)
TEST SIGNAL	$\boxed{\text{OFF}}$	Output color bars only. Do not output any other TEST signals.
	ON	Use BARS button of a attached wireless controller reception to trigger output TEST signal, rotating in this order: Color bars → Color bars (rotate per track) → Grayscale → Grayscale (rotate per track) → Multi burst (Y signal only) → Multi burst (Y and C signals) → 100% white → Red → Black burst
TEMP THRESHOLD	$\boxed{\text{220}}$	Threshold of rising temperature warning display, 00~255 (220 [DCh] = internal temperature approx. 60°C). Refer to item “TEMP” in table 1.8.7 (1)
BATT. SHUT DOWN	$\boxed{\text{10.5}}$	Voltage value to carry out power OFF operation (Set at OFF, 10.0~12.0 in increments of 0.1)
BATT. ALARM	$\boxed{\text{11.0}}$	Voltage value to trigger display of battery alarm warning (Set at 10.0~12.0 in increments of 0.1)

☐ is default setting when shipped from factory.

Table 1.8.4 VTR 2 Menu Setting Item List

1.8.5 DIP switch menu

Sets the DIP SW. (All status are set to “OFF” or “0” when shipped.)

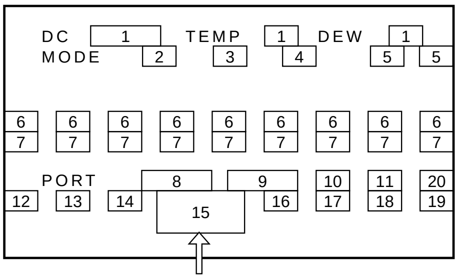
Item	Parameter	Default setting at factory
DIP SW 1/3		
DIP SW – 0	1: Displays error rate monitor and CPU port information	0
DIP SW – 1	ON: Disables warning detection	OFF
DIP SW – 2	Change prohibited	OFF
DIP SW – 3	ON: Disables DEW warning	OFF
DIP SW – 4	Change prohibited	OFF
DIP SW – 5	Change prohibited	OFF
DIP SW – 6	Change prohibited	0
DIP SW – 7	Change prohibited	OFF
DIP SW 2/3		
DIP SW – 8	Change prohibited	OFF
DIP SW – 9	Change prohibited	OFF
DIP SW – 10	ON: Displays error rate solely for audio block on the error rate monitor screen	OFF
DIP SW – 11	Change prohibited	OFF
DIP SW – 12	Change prohibited	OFF
DIP SW – 13	Change prohibited	OFF
DIP SW – 14	Change prohibited	OFF
DIP SW – 15	Change prohibited	OFF
DIP SW 3/3		
DIP SW – 16	Change prohibited	OFF
DIP SW – 17	Change prohibited	OFF
DIP SW – 18	Change prohibited	OFF
DIP SW – 19	Change prohibited	OFF
DIP SW – 20	Change prohibited	OFF
DIP SW – 21	Change prohibited	OFF
DIP SW – 22	Change prohibited	OFF
DIP SW – 23	Change prohibited	OFF

☐ is default setting when shipped from factory

Table 1.8.5 DIP SW Menu Setting Item List

Error Rate Monitor

By setting DIP SW-0 to “1”, the error rate value is displayed in position [15] on the monitor screen.
The error rate value is always Viterbi ON mode, with CH-1 shown in the upper row, and CH-2 shown in the lower row and total AUDIO/VIDEO.
When the error rate increases, a warning message "HEAD CLEANING REQUIRED" is displayed. The detection threshold for display is when the error rate value is over 4,500 (one-channel AV total) for 7 seconds consecutively.



Error Rate Display Value

Fig.1.8.5 DIP SW-0 Display Screen

1.8.6 HOUR METER menu

Displays and resets the various types of hour meters.
When the parameter is set to “CLEAR” and the SET button is pressed, the hour meter is cleared.

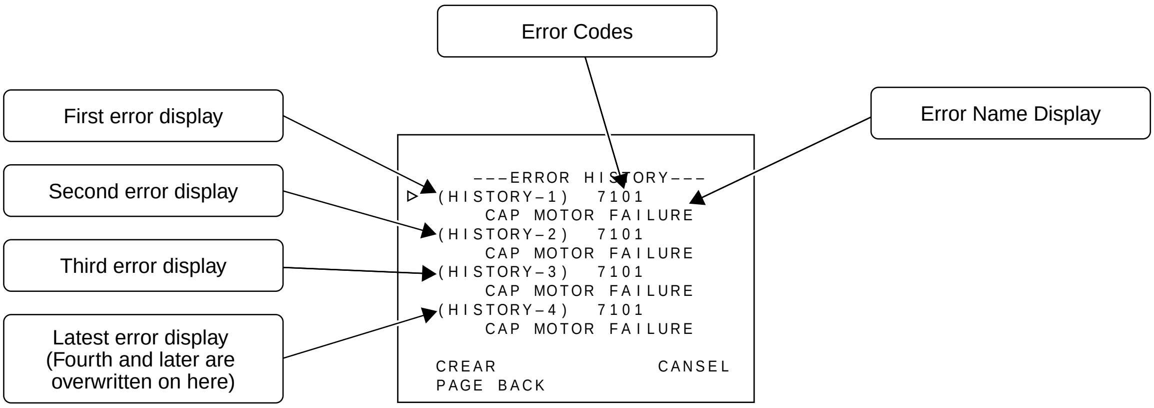
Item	Parameter			Time duration/number of times display is possible
DRUM	Time display	H	Displays the drum hour meter (for drum maintenance)	000000~999999 Time duration
	CLEAR		Resets the drum hour meter	
TOTAL DRUM	Time display	H	Displays the total drum hour meter	000000~999999 Time duration
POWER	Time display	H	Displays the power hour meter	000000~999999 Time duration
	CLEAR		Resets the power hour meter	
CAPSTAN	Time display	H	Displays the capstan hour meter	000000~999999 Time duration
	CLEAR		Resets the capstan hour meter	
REEL FWD	Time display	H	Displays the reel forward direction running hour meter	000000~999999 Time duration
	CLEAR		Resets the reel forward direction running hour meter	
REEL REV	Time display	H	Displays the reel reverse direction running hour meter	000000~999999 Time duration
	CLEAR		Resets the reel reverse direction running hour meter	
LOADING	Number display		Displays the number of times a tape was loaded	000000~999999 Number of times (events)
	CLEAR		Resets the number of times a tape was loaded	
EJECT (MINI)	Number display		Displays the number of times a mini cassette was ejected	000000~999999 Number of times (events)
	CLEAR		Resets the number of times a mini cassette was ejected	
EJECT (STD)	Number display		Displays the number of times a standard cassette was ejected	000000~999999 Number of times (events)
	CLEAR		Resets the number of times a standard cassette was ejected	
FWD/REV	Number display		Displays the number of FWD/REV switchings	000000~999999 Number of times (events)
	CLEAR		Resets the number of FWD/REV switchings	
FF/REW	Number display		Displays the number of FF/REW switchings	000000~999999 Number of times (events)
	CLEAR		Resets the number of FF/REW switchings	
CLEANER	Number display		Displays the number of times the cleaner was activated	000000~999999 Number of times (events)
	CLEAR		Resets the number of times the cleaner was activated	

☐ is default setting when shipped from factory

Table 1.8.6 HOUR METER Menu Setting Item List

1.8.7 ERROR HISTORY menu

It can display 4 errors that have occurred in the past.
Initially, when there is no error history in the memory, the first error to occur will be logged in the first position (HISTORY-1). The second and third errors to occur will be logged in (HISTORY-2) and (HISTORY-3). All subsequent errors will be overwritten in (HISTORY-4).
The fourth and subsequent errors are set to overwrite in order to prevent the user from repeatedly attempting to use a malfunctioning unit and thereby erasing any record of the initial cause error. Be sure to clear the error history before returning a repaired unit to the customer.
When resetting ERROR HISTORY, set the parameter for “CLEAR” to “EXECUTE”, and press the [SET] button.



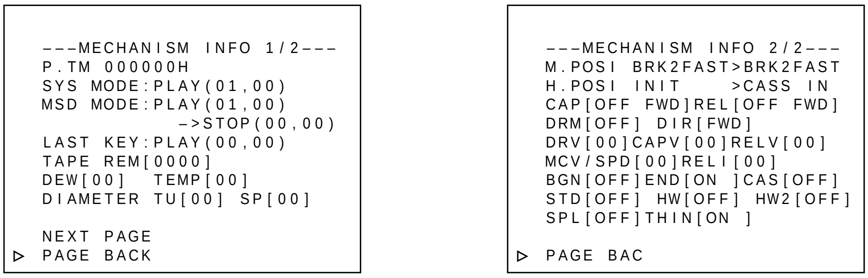
```
     ---ERROR HISTORY---
▷ (HISTORY-1)  7101
      CAP MOTOR FAILURE
  (HISTORY-2)  7101
      CAP MOTOR FAILURE
  (HISTORY-3)  7101
      CAP MOTOR FAILURE
  (HISTORY-4)  7101
      CAP MOTOR FAILURE

  CREAR                CANSEL
  PAGE BACK
```

Fig. 1.8.7 (1) ERROR HISTORY

(1) MECHANISM INFO (Detailed information when error occurs)

Move the cursor to the error code on the “ERROR HISTORY” screen, and press the [SET] button (or ▶ button) to display the MECHANISM INFO screen as it was at the time of the error, you can check the details of the malfunction.



```
  ---MECHANISM INFO 1/2---
  P.TM 000000H
  SYS MODE:PLAY(01,00)
  MSD MODE:PLAY(01,00)
             ->STOP(00,00)
  LAST KEY:PLAY(00,00)
  TAPE REM[0000]
  DEW[00]  TEMP[00]
  DIAMETER TU[00] SP[00]

  NEXT PAGE
▷ PAGE BACK
```

```
  ---MECHANISM INFO 2/2---
  M.POSI BRK2FAST>BRK2FAST
  H.POSI INIT     >CASS IN
  CAP[OFF FWD]REL[OFF FWD]
  DRM[OFF] DIR[FWD]
  DRV[00]CAPV[00]RELV[00]
  MCV/SPD[00]RELI[00]
  BGN[OFF]END[ON ]CAS[OFF]
  STD[OFF] HW[OFF] HW2[OFF]
  SPL[OFF]THIN[ON ]

▷ PAGE BAC
```

Fig. 1.8.7 (2) MECHANISM INFO Display Screen

Item	Content	Displayed Content
P.TM	POWER HOUR METER	Power hour meter is display.
SYS MODE	SYSCON CPU mode when error occurred PLAY (03, 00) ⇧ ⇧ MODE DATA Parameter	SFF/SREW parameter is speed display. (Refer to Fig. 1.8.7 (2) Speed parameter) Parameters of other modes are irrelevant. EJECT (01) : Eject ADUB (0B) : Audio Dub STOP (02) : Stop ADBP (0C) : Audio Dub Pause PLAY (03) : Play REC (13) : Rec STL (04) : Still RECP (14) : Rec Pause FF (05) : FF DVRC (15) : DV Rec REW (06) : Rew DVRP (16) : DV Rec Pause SFF (07) : Search Fwd POFF (1A) : Power Off SREW (08) : Search Rev NDEF (1F) : During initial operation
MSD MODE	MSD CPU mode and target mode when error occurred PLAY (01, 00) ⇧ ⇧ MODE DATA Parameter	
LAST KEY	Final Key code when error occurred PLAY (E7, 01) ⇧ ⇧ MODE DATA Parameter	SFF/SREW parameter is speed display (See Fig. 1.8.7(2)) Other parameters are 01: ON, 00: OFF REC (E0) : Rec SFF (EB) : Search Fwd RECP (E1) : Rec Pause SREW (EC) : Search Rev DVRP (E2) : DV Rec Pause STOP (F0) : Stop ADUB (E5) : Audio Dub EJECT (F1) : Eject ADBP (E6) : Audio Dub Pause HWUP (F2) : Housing Up PLAY (E7) : Play HWDN (F3) : Housing Down STL (E8) : Still POFF (F4) : Power Off FF (E9) : FF DVRC (F5) : DV Rec REW (EA) : Rew PON (FA) : Power on
TAPE REM	TAPE REMAIN	Displays tape remaining in minutes ([FFFF] : not detected)
DEW	DEW sensor A/D intake value	DEW detects (at low temp. [13], at normal temp [CD]) DEW off (at low temp. [12], at normal temp [99])
TEMP	Temperature sensor A/D intake value The value "49" [5°C] is threshold of detecting low temperture. The value "DC" [60°C] is the threshold of displaying "OVER HEATING" message.	Temperature is displayed in hexadecimal value. -10°C ➡ [22] 20°C ➡ [7C] 50°C ➡ [CC] - 5°C ➡ [2D] 25°C ➡ [8C] 55°C ➡ [D4] 0°C ➡ [3A] 30°C ➡ [9C] 60°C ➡ [DC] 5°C ➡ [49] 35°C ➡ [AA] 10°C ➡ [59] 40°C ➡ [B7] 65°C ➡ [E1] 15°C ➡ [6A] 45°C ➡ [C2] 70°C ➡ [E6]
DIAMETER	Displays wound tape diameter (Take-up, Supply)	[00]—[FF] : 0mm-82mm (Diameter) ([00] is non-detected)
M. POSI	Mechanism position and target mechanism position	[2ULD], [ULD2BRK], [BRK], [BRK2FAST], [FAST], [FAST2STP], [STP], [STP2SRH], [SRH], [SRH2], [INIT]("2" is the meaning of "TO". It means transition. Refer to section 2, Mechanism Timing Chart.)
H. POSI	Housing position and target housing position	[EJECT], [EJECT2IN], [CASS IN], [RELEASE](Release the SUP reel lock.) [INIT](For the intake and eject operation, refer to section 8.2.3.)
CAP	Capstan status	[ON] : Rotate [FWD/REV]: Direction display [OFF] : Stop
REL	Reel status	[ON] : Rotate [FWD/REV]: Direction display [OFF] : Stop
DRM	Drum status	[ON] : Rotate [OFF] : Stop
DIR	Direction of tape running (Direction of target)	[FWD/REV] : Direction display
DRV	Drum control voltage	[00-FF] : 0—3V
CAPV	Capstan control voltage	[00-FF] : 0—3V
RELV	Reel control torque value	[00-FF] : 0—3A

<table>
<tr><th>Item</th><th>Content</th><th>Displayed Content</th></tr>
<tr><td rowspan="2">MCV/SPD</td><td>Loading/cassette housing control voltage (when error code 4xxx and error code 3xxx is displayed.)</td><td>[00-FF] : 0—8V (Displays mode motor control voltage during error code 3xxx)
[00-FF] : 0-11V (Displays cassette motor control voltage during error code 4xxx)</td></tr>
<tr><td>Tape speed (When the code excepting error code 4xxx and error code 3xxx is displayed.)</td><td>[00-FA] : 0—25X (FF is displayed when the speed is faster than this.)
“Tape speed” is a function to convert the hexadecimal value into a decimal value, and no speed parameter of the tape.
(ex. FAh = 250 → The speed is 25.0X.)</td></tr>
<tr><td>RELI</td><td>Reel current (Cassette housing motor current during housing-related warning)</td><td>[00-FF] : 0—1.2A</td></tr>
<tr><td>BGN</td><td>Begin sensor</td><td>[ON] : Leader tape detected
[OFF] : Magnetic tape detected</td></tr>
<tr><td>END</td><td>End sensor</td><td>[ON] : Trailer tape detected
[OFF] : Magnetic tape detected</td></tr>
<tr><td>CAS</td><td>Cassette SW status</td><td>[OFF] : No cassette
[ON] : Cassette detected (STD/MINI)</td></tr>
<tr><td>STD</td><td>Standard cassette SW status</td><td>[OFF] : Mini cassette tape inserted
[ON] : STD cassette tape inserted</td></tr>
<tr><td>HW, HW2</td><td>Housing SW/Housing 2SW status</td><td><table>
<tr><th>HW SW</th><th>HW2 SW</th><th>Housing status</th></tr>
<tr><td>[OFF]</td><td>[ON]</td><td>–</td></tr>
<tr><td>[ON]</td><td>[OFF]</td><td>EJECT (Initial position)</td></tr>
<tr><td>[OFF]</td><td>[OFF]</td><td>Cassette intake</td></tr>
<tr><td>[ON]</td><td>[ON]</td><td>Ejecting Mini cassette</td></tr>
</table></td></tr>
<tr><td>SPL</td><td>SUP Lock SW status (during loading)</td><td>[ON] : Normal operation (TU side tape winding)
[OFF] : Lock release
(Tape begin detected, Supply side tape winding mode)</td></tr>
<tr><td>THIN</td><td>Thin tape detection</td><td>[ON] : THIN
[OFF] : NORMAL</td></tr>
</table>

Table 1.8.7 (1) MECHANISM INFO content

Parameter	Speed	Parameter	Speed
00	x 0	82	x 1.08
1F	x 0.03	83	x 1.11
40	x 0.10	84	x 1.12
53	x 0.20	85	x 1.16
61	x 0.30	91	x 2.00
6D	x 0.50	A9	x 5.00
7A	x 0.80	BD	x 9.00
7B	x 0.84	C0	x 10.0
7D	x 0.90	C4	x 12.0
7F	x 0.96	CC	x 15.0
80	x 1.00	D3	x 20.0
81	x 1.04		

Table 1.8.7 (2) Speed parameter

(2) Error code description

Error code	Display	Content of occurrence	Method of detection	Detected signal
0201	CONDENSATION ON DRUM	DEW detected	If DEW sensor detects condensation	IC302 (MSD) –detects voltage of pin 318
3200	LOADING FAILURE	Does not load	If mechanism position does not move in loading direction within 5 seconds	IC302-pin354 Rotary encoder output is detected
3300	UNLOADING FAILURE	Does not unload	If mechanism position does not move in unloading direction within 5 seconds	IC302-pin354 Rotary encoder output is detected
	No display	Does not intake	If intake is not completed within 5 seconds (Perform ejects without warning)	IC302 (MSD) –pin 84, CASSETTE SW is not detected within 5 seconds
4100	CASSETTE EJECT FAILURE	Does not eject	If eject is not completed within 5 seconds	IC302 (MSD) –pin 26, HOUSING SW is not detected within 5 seconds
5605	DEFECTIVE TAPE	Tape abnormality during intake	If begin and end sensor are ON after intake	IC302 (MSD) –pin 278, START sensor and pin 297, END sensor are both detected
5606	DEFECTIVE TAPE	Tape tear during unloading	If reel FG is excessive during unloading	IC302 (MSD) –pin 75, TU REEL FG is detected
5607	DEFECTIVE TAPE	Tape tear during loading	If reel FG is insufficient during loading	IC302 (MSD) –pin 75, TU REEL FG is detected
5608	DEFECTIVE TAPE	Tape tear on the loading side	If only supply side reel does not rotate during FWD/REV	IC302 (MSD) –pin 72, SUP REEL FG is not detected
5609	DEFECTIVE TAPE	Tape tear during slack takeup	If tape slack takeup is not completed within 10 seconds	IC302 (MSD) –pin 75, TU REEL FG and pin 72, SUP REEL FG are both detected
5702	TAPE END DET. ERROR	End sensor malfunction	If trailer tape sending is not completed within 3 seconds	IC302 (MSD) –pin 297, END sensor is detected for over 3 seconds
5802	TAPE BEGIN DET. ERROR	Begin sensor malfunction	If leader tape sending is not completed within 3 seconds	IC302 (MSD) –pin 278, START sensor is detected for over 3 seconds
7001	DRUM MOTOR FAILURE	Drum motor does not rotate	If drum motor does not rotate for over 4 seconds	IC302 (MSD) –pin 55, DRUM FG is not detected for over 4 seconds
7101	CAP MOTOR FAILURE	Capstan motor does not rotate	If capstan motor does not rotate for over 2 seconds	IC302 (MSD) –pin 56, CAP FG is not detected for over 2 seconds
7202	SUPPLY REEL FAILURE	SUP reel does not rotate	If SUP reel does not rotate for over 3 seconds	IC302 (MSD) –pin 72, SUP REEL FG is not detected for over 3 seconds
7203	SUPPLY REEL FAILURE	SUP side tape slack	If only SUP reel does not rotate during REV	IC302 (MSD) –pin 72, SUP REEL FG is not detected
7302	TAKE UP REEL FAILURE	TU reel does not rotate	If TU reel does not rotate for over 3 seconds	IC302 (MSD) –pin 75, TU REEL FG is not detected for over 3 seconds
7303	TAKE UP REEL FAILURE	TU side tape slack	If only TU reel does not rotate during FWD	IC302 (MSD) –pin 75, TU REEL FG is not detected
7305	TAKE UP REEL FAILURE	Tape slack during unloading	If TU reel FG is insufficient during unloading	IC302 (MSD) –pin 75, TU REEL sensor is detected
7401	REEL MOTOR FAILURE	Reel motor does not rotate	If reel motor does not rotate for more than 4 seconds during reel drive mode	IC302 (MSD) –pin 91, REEL FG is not detected for over 4 seconds

Table 1.8.7 (3) Error Code Contents

1.8.8 OTHERS menu

<table>
<tr><th>Item</th><th colspan="2">Parameter</th></tr>
<tr><td rowspan="2">MEMORY SW LOAD</td><td>$\boxed{\text{OFF}}$</td><td>Standard setting</td></tr>
<tr><td>START</td><td>Menu SW information is loaded from a store aria.</td></tr>
<tr><td rowspan="2">MEMORY SW SAVE</td><td>$\boxed{\text{OFF}}$</td><td>Standard setting</td></tr>
<tr><td>START</td><td>Menu SW information is saved to a store aria.</td></tr>
<tr><td rowspan="2">ALL RESET</td><td>$\boxed{\text{CANCEL}}$</td><td>Standard setting</td></tr>
<tr><td>I,U,E,EC</td><td>Resets all EEP-ROM data to default settings except adjustment data, hour meter data, and IEEE1394 ID data.
Default settings differ by market region.
I: for Japan, U: for USA, E: for EU, EC: for China</td></tr>
<tr><td>MEM.EDIT</td><td colspan="2">Contents of the EEP-ROM can be edited directly
ADR: Address (0-03FF) display
DATA: Display of data embedded in address shown by ADR

Operation procedure
1 Press the ▲ or ▼ button to move the cursor to MEM or EDIT.
② Press the ▶ button to make the ADR parameter blink.
③ Press the ▲ or ▼ button to select the ADR parameter you want to edit. (Pressing ▲ or ▼ while keeping the “A.DUB” button pressed will cause it to count up or down in increments of 10.)
④ Press the ▶ button to make the DATA parameter blink.
⑤ Press the ▲ or ▼ button to make changes in the DATA parameter.
⑥ Press the [SET] button and confirm the DATA parameter. (The parameter stops blinking)

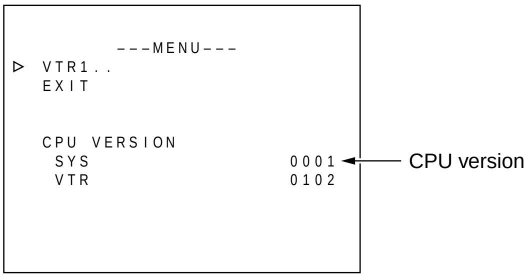
(NOTE)
The EEPROMs store important data for the system and careless rewriting may make normal operation of the system impossible. Do not use this function for purposes other than the IEEE1394 ID date that is described.</td></tr>
<tr><td rowspan="2">OPERATION CHECK</td><td>$\boxed{\text{CANCEL}}$</td><td>Standard setting</td></tr>
<tr><td>EXECUTE</td><td>Enters the OPERATION check mode. All LEDs turn on. By operating the relevant buttons and slide switches, the operation of the buttons and LEDs can be checked as shown in the following list.
To exit from this mode, turn OPERATE to OFF.
<table>
<tr><th>Button</th><th colspan="2">LED display contents</th></tr>
<tr><td>OPERATE</td><td colspan="2">Power ON/OFF SW</td></tr>
<tr><td>EJECT</td><td colspan="2">Cassette tape LED goes out</td></tr>
<tr><td>STOP</td><td colspan="2">All except OPERATE LED go out</td></tr>
<tr><td>FF</td><td colspan="2">FF LED goes out</td></tr>
<tr><td>PLAY</td><td colspan="2">PLAY LED goes out</td></tr>
<tr><td>REW</td><td colspan="2">REW LED goes out</td></tr>
<tr><td>PAUSE</td><td colspan="2">PAUSE LED goes out</td></tr>
<tr><td>REC</td><td colspan="2">REC LED goes out</td></tr>
<tr><td>A.DUB</td><td colspan="2">A.DUB LED goes out</td></tr>
<tr><td rowspan="3">INPUT SELECT</td><td>DV</td><td>Rch LED comes on, Lch LED comes on</td></tr>
<tr><td>LINE</td><td>Rch LED comes on, Lch LED goes out</td></tr>
<tr><td>Y/C</td><td>Rch LED goes out, Lch LED comes on</td></tr>
<tr><td rowspan="3">REMOTE/LOCAL</td><td>9PIN</td><td>DV CAM LED comes on, REC INH LED goes out</td></tr>
<tr><td>SERIAL</td><td>DV CAM LED goes out, REC INH LED comes on</td></tr>
<tr><td>WIRELESS</td><td>DV CAM LED comes on, REC INH LED comes on</td></tr>
<tr><td rowspan="2">NTSC/PAL(REAR)</td><td>NTSC</td><td>NTSC LED comes on, PAL LED goes out</td></tr>
<tr><td>PAL</td><td>NTSC LED goes out, PAL LED comes on</td></tr>
</table></td></tr>
<tr><td rowspan="2">REAR SER. SEL</td><td>$\boxed{\text{SERIAL}}$</td><td>REAR terminal is used as the SERIAL REMOTE terminal.</td></tr>
<tr><td>TCCS</td><td>REAR terminal is used as the TCCS terminal (factory use)
By pressing REC + ADB simultaneously while powering up, the forced TCCS mode is engaged.</td></tr>
</table>

☐ is default setting when shipped from factory

Table 1.8.8 OTHERS Menu Setting Items List

1.8.9 CPU version menu

Displays version of SYSCON CPU and MSD (VCR) CPU.



```
          ---MENU---
▷ VTR1..
  EXIT


  CPU VERSION
   SYS                   0001
   VTR                   0102
```

Firmware version

SYSCON	PLSL1144-VX-XX
MSD (VTR)	PLSL1141-VX-XX

Fig. 1.8.9 CPU Version Display

1.8.10 EEP-ROMS

(1) EEP-ROMS and stored data

AG-DV2500 is equipped with two EEP-ROMS for the purpose of data stored, and their contents are as per the following list. When the circuit board or EEP-ROM is replaced, there will be no data in the EEP-ROM. When the unit is powered up, and the SYSCON CPU or MSD CPU recognizes that there is no data in the EEP-ROM, it automatically writes initial data into the EEP-ROM to initialize it. The memory data shown in Table 1.8.10 will all be reset back to default settings, so it will be necessary to perform necess ary adjustments and settings again.

EEP-ROM	Circuit board name	Memory data content
IC301	DV/CPU circuit board (MSD CPU) MAIN circuit board	• Adjusted data (DVC section: Adjustment menu No. 100-121) • IEEE1394 ID data • HOUR METER data
IC2003	(SYSCON CPU)	• Adjusted data (VCR section: Adjustment menu No. 200-274) • User menu and Service menu settings data • ERROR HISTORY

Table 1.8.10 EEP-ROM Memory Data Content

(2) IEEE1394 ID setting method

IEEE1394 equipped units have an ID, as defined by the IEEE1394 standard, stored in the internal EEP-ROM (IC 301). At the time of production, the ID assigned for each individual unit are written into the EEP-ROM, and a sticker bearing the ID is affixed inside the unit. When the EEP-ROM (DV/CPU board assembly) or DV/CPU board assembly is replaced, the ID needs to be set again.

Procedure for setting IEEE1394 ID

The ID is an 8 digit, hexadecimal code, with 1 high Byte being the model code, and 3 low Bytes being individual to the unit. The model code is automatically initialized, so only the lower 3 Bytes of individual code need to be set manually. Go from Service Menu → OTHERS Menu → MEM. EDIT (Memory Edit) to select the address in the ID data section and make the setting directly. The 3 low Byte address is as follows. Make the setting while confirming the ID printed on the label (ID: 80xxxxxx) pasted on the inside of the AG-DV2500 (See Fig. 1.8.10).

IEEE1394 ID data : 80 xx xx xx (Indicates on the label of AG-DV2500 inside.)
↓ ↓ ↓
Address data “391” “392” “393”

Setting procedure

(1) Press the ▲ or ▼ button to move the cursor to MEM. EDIT.
(2) Press the ▶ button to make the ADR parameter blink.
(3) Press the ▲ or ▼ button to select ADR parameter “391”.
(4) Press the ▶ button to make the DATA parameter blink.
(5) Press the ▲ or ▼ button to set ADR = “391” for the ID.
(6) Press the [SET] button to confirm the DATA parameter.
(7) In the same manner, select ADR parameter “392” and “393” to set the ID data.

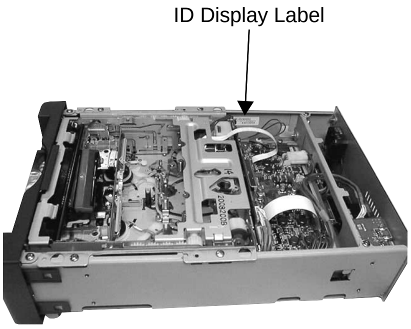

ID Display Label

Fig. 1.8.10 ID Label Attachment Position

1.8.11 Real-time clock

The IC2002 (RS5C314) on the MAIN circuit board is a CMOS real-time clock IC that sends time/calendar data to the CPU via serial transmission. When power is not being supplied to the BT2001, there is a secondary battery (3V) to backup the IC2002. By charging for 4 hours, it provides 3 months of backup. When power is being supplied, AL3V is sent through D2002 to the IC2002 8pin, and through D2003 the BT2001 enters a state of being charged. When external power supply (AL3V) ceases, BT2001 is discharged through D2002 and the current is sent to the IC2002 8pin, resulting in a state of backup.

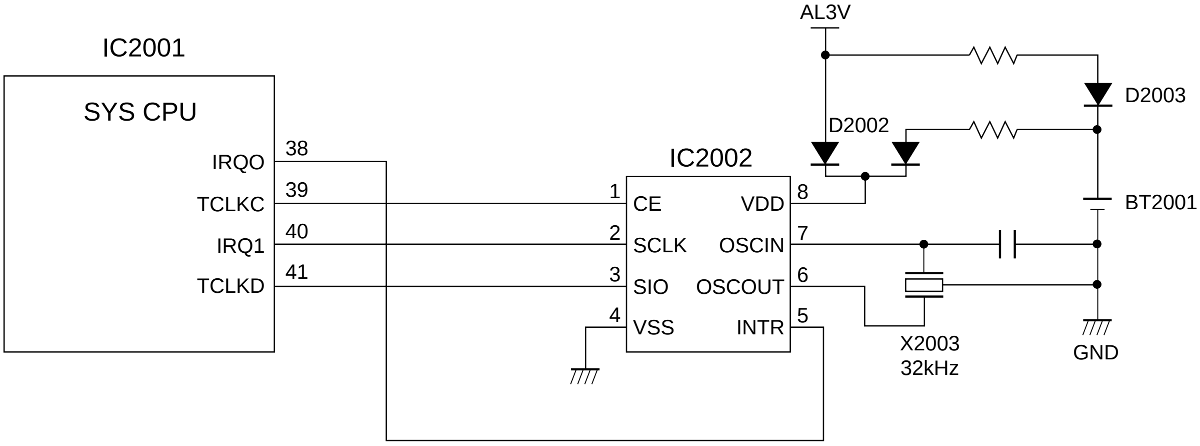

IC2001
SYS CPU
IRQO
TCLKC
IRQ1
TCLKD
38
39
40
41
IC2002
1 CE
2 SCLK
3 SIO
4 VSS
8 VDD
7 OSCIN
6 OSCOUT
5 INTR
AL3V
D2002
D2003
BT2001
X2003
32kHz
GND

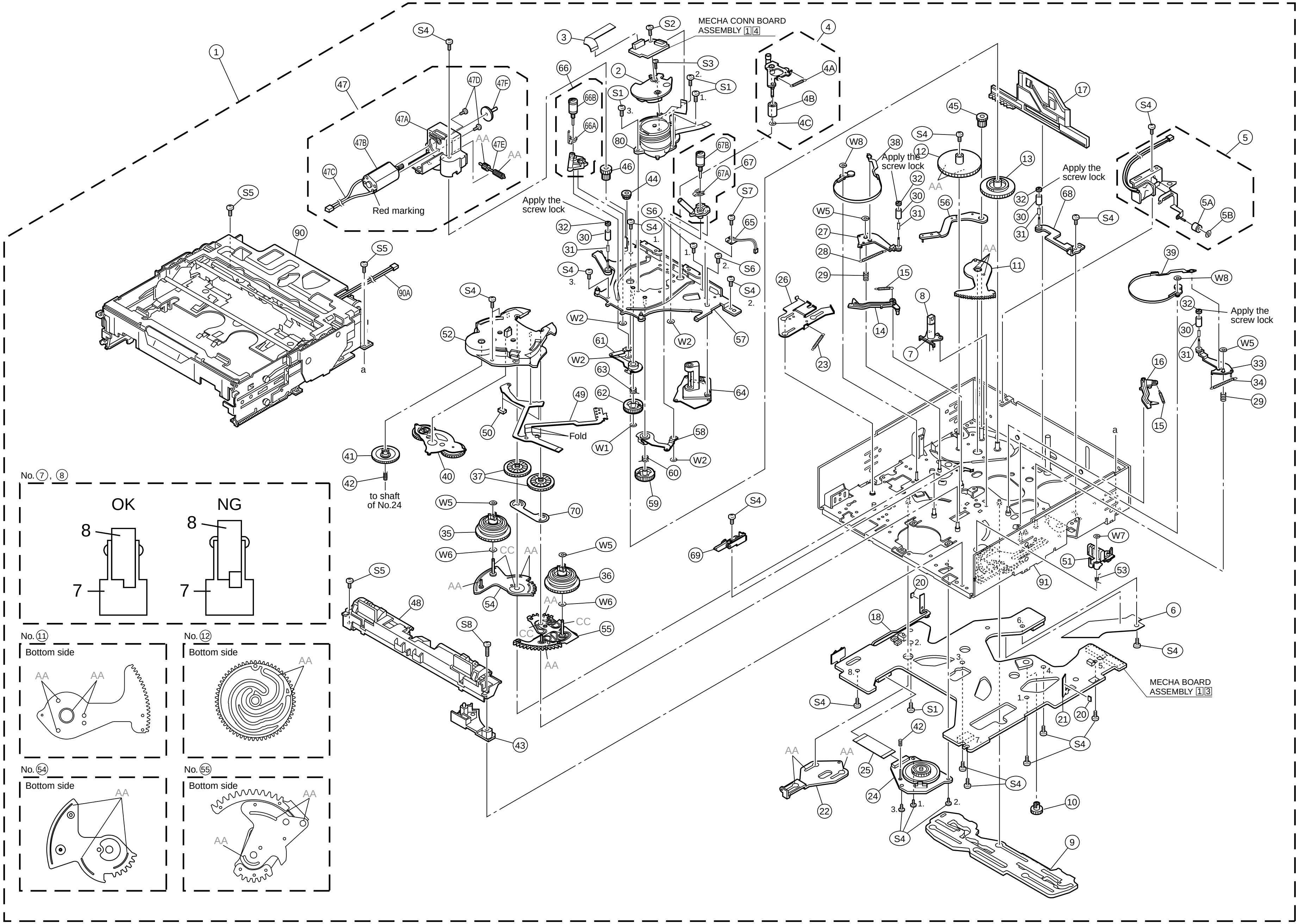
Fig. 1.8.11 Real-time Clock Circuit

SERVICING FIXTURES & TOOLS

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VFK1842	ALIGNMENT TAPE	1	
2	VFK1843	CASSETTE TORQUE METER	1	FOR FWD MODE
2	VFK1844	CASSETTE TORQUE METER	1	FOR REV MODE
3	VFK1149	POST DRIVER	1	
4	VFK1209	TORQUE SCREWDRIVER	1	
4	VFK1845	TORQUE SCREWDRIVER	1	REPLACEABLE BIT(LONG TYPE)
5	VFK1846	REWRITE BOARD	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks

MECHANISM PARTS ASSEMBLY


MECHA CONN BOARD ASSEMBLY 1 4
MECHA BOARD ASSEMBLY 1 3
Apply the screw lock
Red marking
Fold
to shaft of No.24
a
AA
CC
1
2
3
4
4A
4B
4C
5
5A
5B
6
7
8
9
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47A
47B
47C
47D
47E
47F
48
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55
56
57
58
59
60
61
62
63
64
65
66
66A
66B
67
67A
67B
68
69
70
80
90
90A
91
S1
S2
S3
S4
S5
S6
S7
S8
W1
W2
W5
W6
W7
W8
1.
2.
3.
4.
5.
6.
7.
8.
No. 7, 8
OK
NG
8
7
No. 11
Bottom side
No. 12
Bottom side
No. 54
Bottom side
No. 55
Bottom side

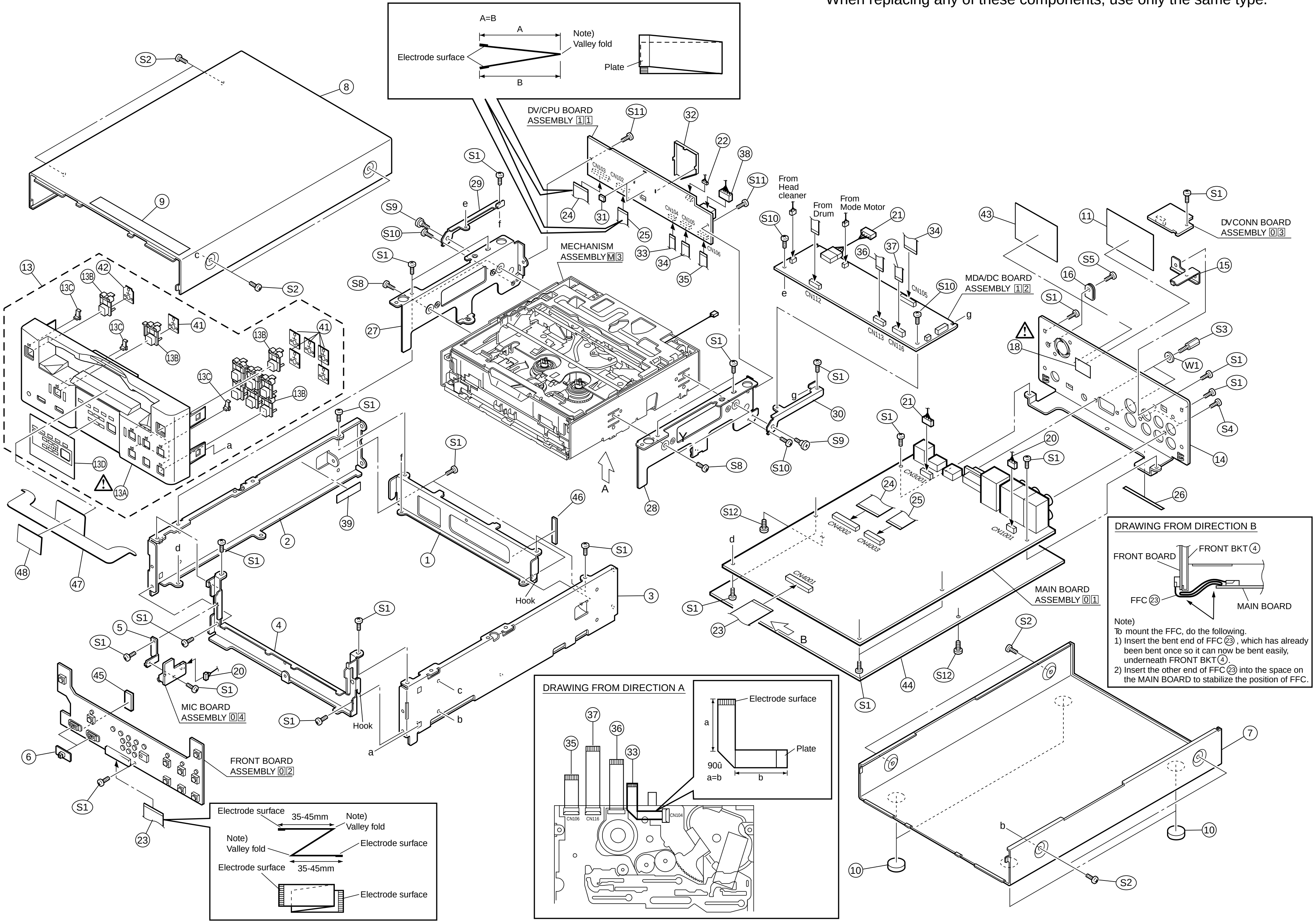
MECHANISM PARTS ASSEMBLY

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	LL30247-001A	MECHANISM ASS'Y	1	
2	LL20081-001A	TAPE GUARD	1	
3	WJT0085-001A	WIRE	1	
4	LL40370-001A	P.ARM F.ASS'Y	1	
4A	LL40357-001A	TEN.SPRING(P.A)	1	
4B	LL40313-001A	PINCH ROLLER	1	
4C	LY40382-001A	P.ROLLER CAP	1	
5	LL40371-001A	H.CLEANER ASS'Y	1	
5A	LY41249-001A	HEAD CLEANER SA	1	
5B	QYWDM0802725	SLIT WASHER	1	
6	LL40341-001A	GUIDE SHEET	1	
7	LL30257-001A	LED HOLDER	1	
8	LN59	L.E.D.	1	
9	LL20071-001A	CTL.PLATE	1	
10	LL30254-001A	M.SENSOR GEAR	1	
11	LL30260-001B	ARM GEAR	1	
12	LL20072-001A	MAIN CAM	1	
13	LL40241-001A	P.CAM GEAR	1	
14	LL30258-001A	SUP REEL LOCK	1	
15	LL40352-001A	TEN.SPRING(R.L)	2	
16	LL30259-001A	TU REEL LOCK	1	
17	LL30262-001A	PINCH PLATE	1	
18	NAL0015-001	FPC 2 ASSEMBLY	1	
20	CPT-230	PH.TRANSISTOR	2	
21	NAL0016-001	FPC 3 ASSEMBLY	1	
22	LL30255-001A	F.LOCK LEVER	1	
23	LL40351-001A	TEN.SPRING(FLL)	1	
24	QAR0247-001	REEL MOTOR	1	
25	WJT0084-001A	FFC	1	
26	LL30256-001B	SW LEVER	1	
27	LL30263-001A	SUP TEN.ARM SA.	1	
28	LL40259-001B	TEN.SPRING(STA)	1	
29	LL40362-001A	COMP.SPRING	2	
30	LL40325-001A	GUIDE ROLLER	4	
31	LL40326-001A	COLLAR	4	
32	LL40327-001A	FLANGE	4	
33	LL30265-001B	TU TEN.ARM SA.	1	
34	LL40353-001A	TEN.SPRING(TTA)	1	
35	LL30281-001A	SUP R.DISK ASSY	1	
36	LL30284-001A	TU R.DISK ASS'Y	1	
37	LL40261-001A	CONN.GEAR ASS'Y	2	
38	LL40293-001A	SUP T.BAND ASSY	1	
39	LL40300-001A	TU T.BAND ASS'Y	1	
40	LL40345-001A	IDLER ARM ASS'Y	1	
41	LL30272-001A	EMERGENCY GEAR	1	
42	LL40354-001A	COMP.SPRING(E.G)	2	
43	LL30303-001A	MIC GUIDE	1	
44	LL40242-001A	GEAR 1	1	
45	LL40243-001A	GEAR 2	1	
46	LL40244-001A	WORM WHEEL 2	1	
47	LL40245-001A	M.MOTOR ASS'Y	1	
47A	LL10068-001A	MOTOR BRACKET	1	
47B	LL40246-001A	MODE MOTOR SA	1	
47C	WJM0310-001A	WIRE	1	
47D	QYSPSPL2003Z	SCREW	2	
47E	LL40248-001A	WORM ASSEMBLY	1	
47F	LL40252-001A	E.GEAR(MODE)	1	
48	LL20087-001A	CA.GUIDE ASS'Y	1	
49	NAL0014-001A	FPC 1 ASSEMBLY	1	
50	CNB1001001V1	I.C.(PH SENSOR)	2	
51	QNZ0586-001	M.I.C.CONNECTOR	1	
52	LL10067-001B	IDLE COVER	1	
53	LL40356-001A	TORSION SPRING	1	
54	LL40316-001A	S.R.PLATE ASS'Y	1	
55	LL40319-001A	T.R.PLATE ASS'Y	1	
56	LL40368-001A	CTL.ARM ASS'Y	1	
57	LL20076-001A	SUB DECK ASS'Y	1	
58	LL40273-001A	TU L.ARM ASS'Y	1	
59	LL30273-001A	TU L.GEAR	1	
60	LL40277-001A	T.SPRING(T.L.G)	1	
61	LL40278-001A	SUP L.ARM ASS'Y	1	
62	LL30274-001A	SUP L.GEAR	1	
63	LL40282-001A	T.SPRING(S.L.G)	1	
64	QAR0248-001	CAPSTAN MOTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
65	QSD0006-001	DEW SENSOR	1	
66	LL30275-001A	SUP P.BASE ASSY	1	
66A	LL30277-001A	SUP P.B.PLATE	1	
66B	LL40284-001A	G.ROLLER ASS'Y	1	
67	LL30278-001A	TU P.BASE ASS'Y	1	
67A	LL30280-001A	TU P.B.PLATE	1	
67B	LL40284-001A	G.ROLLER ASS'Y	1	
68	LL40292-001A	E.G.R.ARM ASS'Y	1	
69	LL40324-001A	M.C.B.PIN ASS'Y	1	
70	LL30306-001A	LEAF PLATE	1	
80	YDV2103A	DRUM ASSEMBLY	1	
90	LL20064-001A	C.HOUSING ASS'Y	1	
90A	WJM0311-001A	WIRE	1	
91	LL20063-001B	MAIN DECK ASS'Y	1	
S1	QYSPSPU1735N	SCREW	4	
S2	QYSDSG2004N	SCREW	1	
S3	QYSPSPU1430M	SCREW	1	
S4	QYSPSPU1725M	SCREW	20	
S5	QYSDSP2005Z	SCREW	3	
S6	QYSDSP2003Z	SCREW	2	
S7	YQ43893	SCREW	1	
S8	QYSDSP2012Z	SCREW	1	
W1	QYWDL163525	SLIT WASHER	1	
W2	QYWDM254725	SLIT WASHER	4	
W5	QYWDM082525	SLIT WASHER	4	
W6	QYWFM123025	WASHER	2	
W7	QYWDM082025	SLIT WASHER	1	
W8	QYWDM123025	SLIT WASHER	2	

CABINET PARTS ASSEMBLY

Components identified with the mark ⚠ have the special characteristics for safety.
When replacing any of these components, use only the same type.


A=B
A
B
Note)
Valley fold
Electrode surface
Plate
DV/CPU BOARD ASSEMBLY 11
MECHANISM ASSEMBLY M3
MDA/DC BOARD ASSEMBLY 12
DVCONN BOARD ASSEMBLY 03
MAIN BOARD ASSEMBLY 01
MIC BOARD ASSEMBLY 04
FRONT BOARD ASSEMBLY 02
From Head cleaner
From Drum
From Mode Motor
CN103
CN102
CN104
CN105
CN106
CN112
CN113
CN116
CN3001
CN4002
CN4003
CN1001
CN4001
Hook
A
B
a
b
c
d
e
f
g
Y
S1
S2
S3
S4
S5
S8
S9
S10
S11
S12
W1
1
2
3
4
5
6
7
8
9
10
11
13
13A
13B
13C
13D
14
15
16
18
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
41
42
43
44
45
46
47
48
35-45mm
Electrode surface
Note)
Valley fold
DRAWING FROM DIRECTION A
CN106
CN116
CN104
a
b
90û
a=b
Plate
DRAWING FROM DIRECTION B
FRONT BOARD
FRONT BKT 4
FFC 23
MAIN BOARD

Note)
To mount the FFC, do the following.
1) Insert the bent end of FFC ㉓, which has already been bent once so it can now be bent easily, underneath FRONT BKT ④.
2) Insert the other end of FFC ㉓ into the space on the MAIN BOARD to stabilize the position of FFC.

CABINET PARTS ASSEMBLY

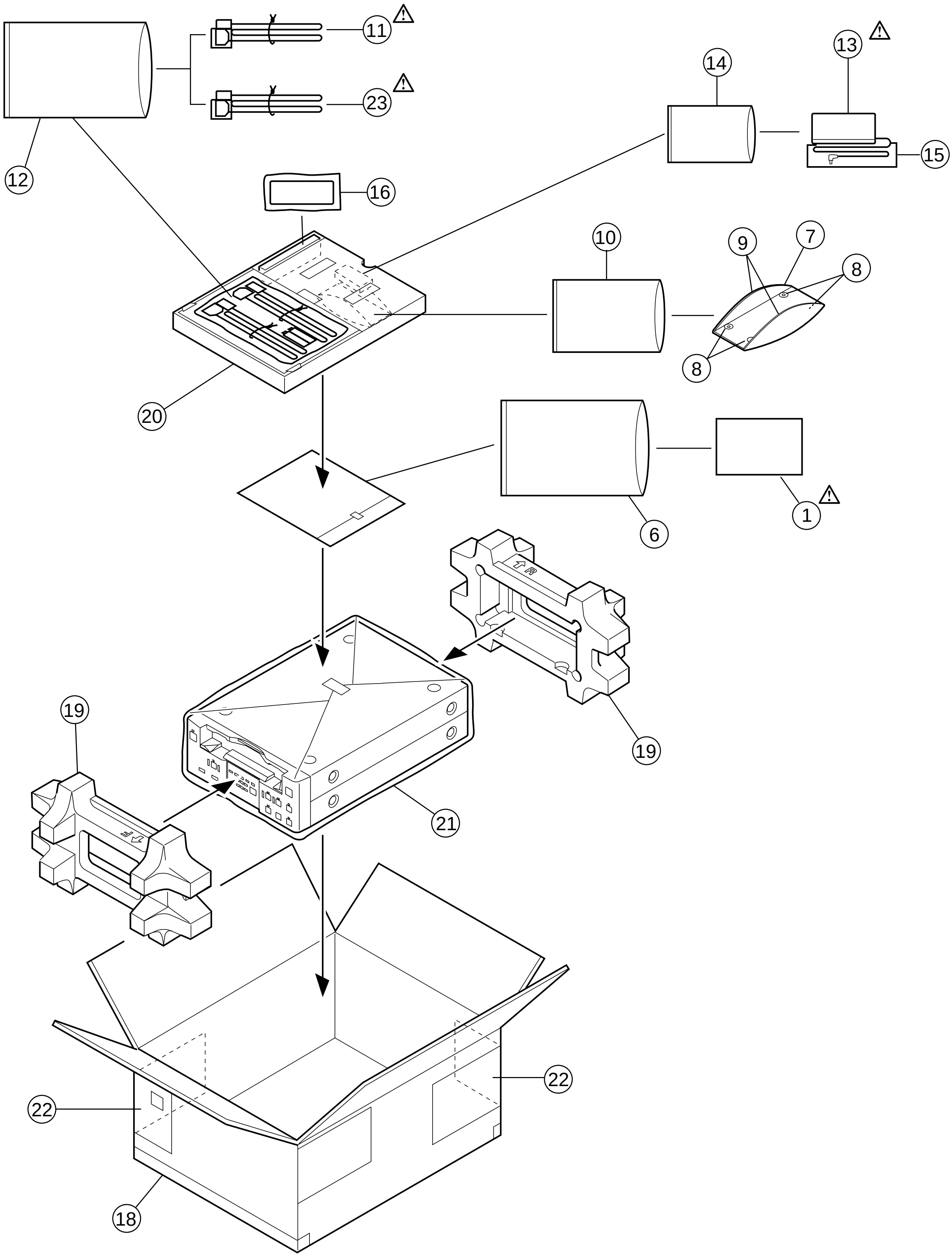
Components identified with the mark ⚠ have the special characterisitics for safety.
When replacing any of these components, use onlly the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	LL30318-001A	CENTER BRACKET	1	
2	LL20089-001A	SIDE FRAME (L)	1	
3	LL20090-001A	SIDE FRAME (R)	1	
4	LL30319-001A	FRONT BRACKET	1	
5	LL40366-001A	BRACKET	1	
6	LL40363-001A	KNOB	2	
7	LL20092-003A	BOTTOM COVER	1	
8	LL20092-004A	TOP COVER	1	
9	LL40390-003A	CAUTION LABEL	1	
10	SS45331	FOOT	4	
11	LL30338-011A	RATING LABEL	1	
13	PGS30680C	F.PANEL ASS'Y	1	
⚠ 13A	LL10078-002A	FRONT PANEL	1	
13B	LL20093-003A	KNOB(OPE)	4	
13C	LL30343-001B	INDICATOR	3	
13D	LL30344-002A	SHEET	1	
14	LL20091-003A	REAR COVER	1	
15	LL40364-001A	BRACKET	1	
16	SS45014-002	WIRE CLAMP	1	
⚠ 18	SC45456-001	CAUTION LABEL	1	
20	JN039-033601	WIRE	1	
21	WJJ0377-001A	WIRE	1	
22	JN027-063211	WIRE	1	
23,24	UQ105-4512AA	FFC WIRE	2	
25	UQ105-3013AA	FFC WIRE	1	
26	SCV2949-038	GASKET	1	
27	LL30314-001D	BRACKET (L)	1	
28	LL30315-001C	BRACKET (R)	1	
29	LL30316-001A	SUB BRACKET(L)	1	
30	LL30317-001A	SUB BRACKET(R)	1	
31	PRD30030-36	PAD	2	
32	LL40377-001A	SHIELD CASE	1	
33	UQ105-1305AA	FFC WIRE	1	
34	UQ105-2609AA	FFC WIRE	1	
35	UQ105-2004AA	FFC WIRE	1	
36	UQ105-1804AA	FFC WIRE	1	
37	UQ105-2004AA	FFC WIRE	1	
38	JJ027-081203	WIRE	1	
39	IEEE1394ID	LABEL	1	
41	LL40398-001A	SHEET(1)	6	
42	LL40399-001A	SHEET(2)	1	
43	LL40400-001A	SHEET	1	
44	LL30353-001A	INSULATOR	1	
45	PRD30030-164	PAD(SLIDE KNOB)	1	
46	PRD30030-147	PAD(DV TERMINAL)	1	
47	LL30354-001A	GUARD SHEET	1	
48	LL40401-001A	LABEL(CAUTION)	1	
S1	PRD44050-02	SCREW(MIC/DVCONN)	27	
S2	QYSDSTY3008X	SCREW	8	
S3	PGZ01821	SCREW	2	
S4	QYSDSF3008Z	SCREW	2	
S5	LL40389-001A	SCREW	1	
S8	QYSPSP3003Z	SCREW	4	
S9	PRD44099	SCREW	2	
S10	QYSDSP2004Z	SCREW	4	
S11	QYSPSPM2003Z	SCREW	2	
S12	QYSDSP2004Z	SCREW	2	
W1	QYWLS275306N	WASHER	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks

PACKING PARTS ASSEMBLY

Components identified with the mark ⚠ have the special characteristics for safety.
When replacing any of these components, use only the same type.



11 ⚠
23 ⚠
12
13 ⚠
14
15
16
10
9
7
8
8
20
1 ⚠
6
19
19
21
22
22
18
R
F

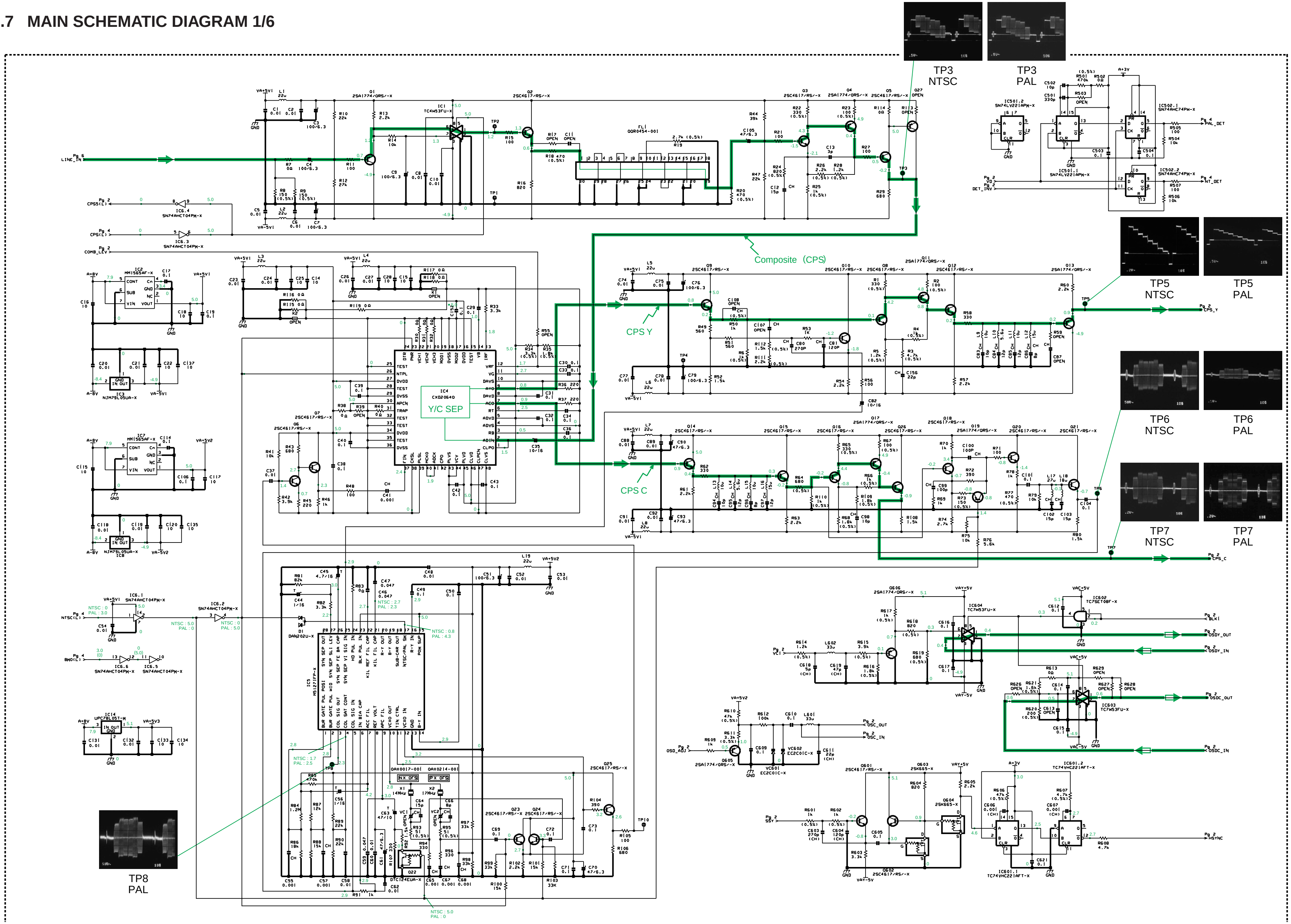
PACKING PARTS ASSEMBLY

Components identified with the mark ⚠ have the special characterisitics for safety.
When replacing any of these components, use onlly the same type.

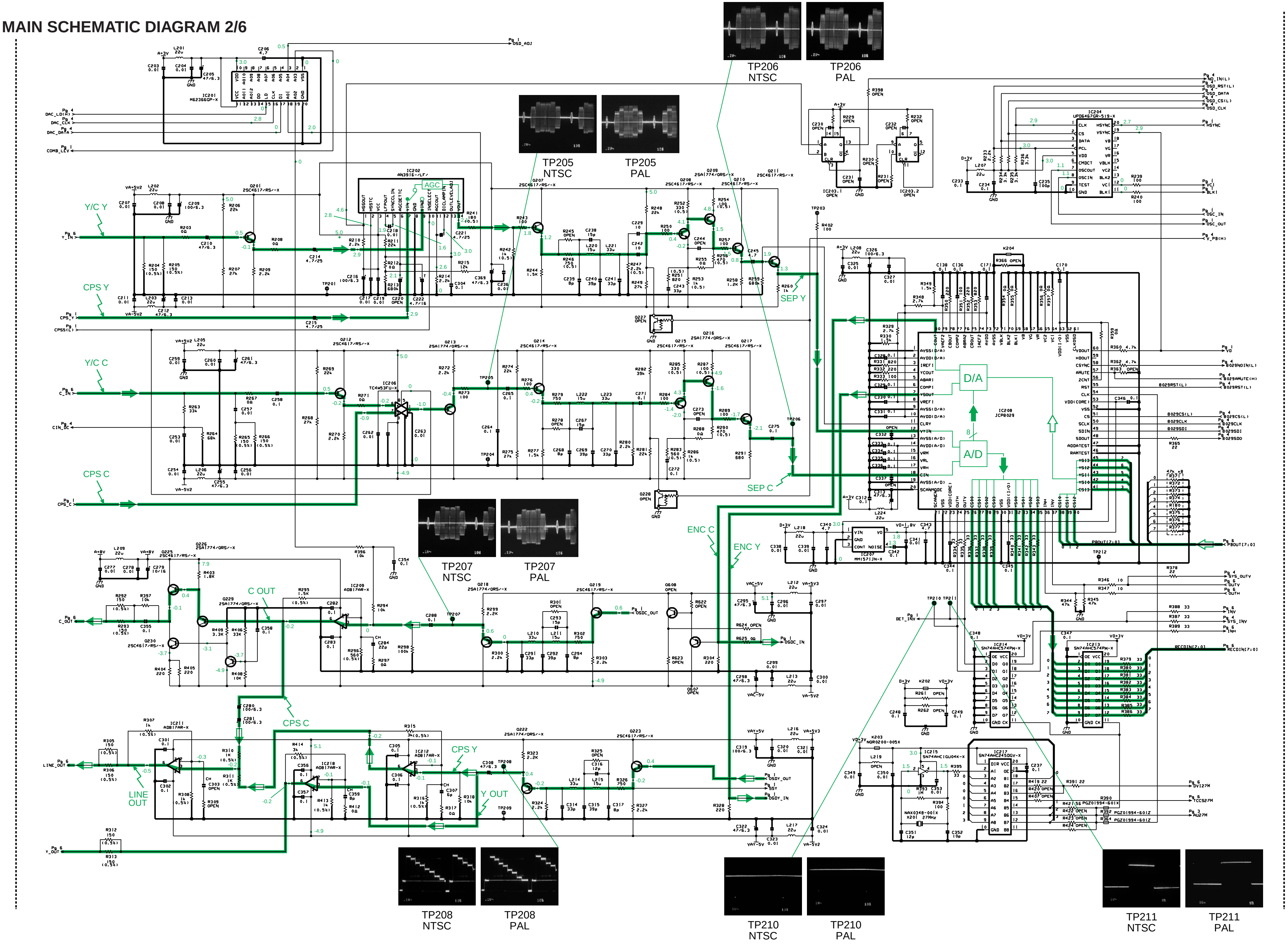
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
⚠ 1	LLT029-001A	OPERATING INSTRUCTIONS	1	FOR AG-DV2500P
⚠ 1	LLT030-001A	OPERATING INSTRUCTIONS	1	FOR AG-DV2500E
6	QPB02403404	POLYETHYLENE BAG	1	
7	LL10073-001A	STAND	1	
8	SS45331	FOOT	4	
9	LL40373-001A	PAD	2	
10	QPA01502005	POLYETHYLENE BAG	1	
⚠ 11	PE260-200-K2	POWER CODE	1	FOR AG-DV2500P
⚠ 11	PL240-200-K2	POWER CODE	1	FOR AG-DV2500E
12	QPB02002804	POLYETHYLENE BAG	1	
⚠ 13	QAL0481-001	AC ADAPTER	1	
14	QPA01202005	POLYETHYLENE BAG	1	
15	PUP40003-7	CUSHION	1	
16	LL30345-001A	REMOCON UNIT	1	
18	LL30322-001A	PACKING CASE	1	
19	LL20094-001A	CUSHION	2	
20	LL20096-001A	ACC. CASE	1	
21	QPA02503505	POLYETHYLENE BAG	1	
22	PRD3134-33	PACKING LABEL	1	FOR AG-DV2500P
22	PRD3134-34	PACKING LABEL	1	FOR AG-DV2500P
22	PRD3134-35	PACKING LABEL	1	FOR AG-DV2500E
22	PRD3134-36	PACKING LABEL	1	FOR AG-DV2500E
⚠ 23	PP160-200-K	POWER CODE	1	FOR AG-DV2500E

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks

5.7 MAIN SCHEMATIC DIAGRAM 1/6

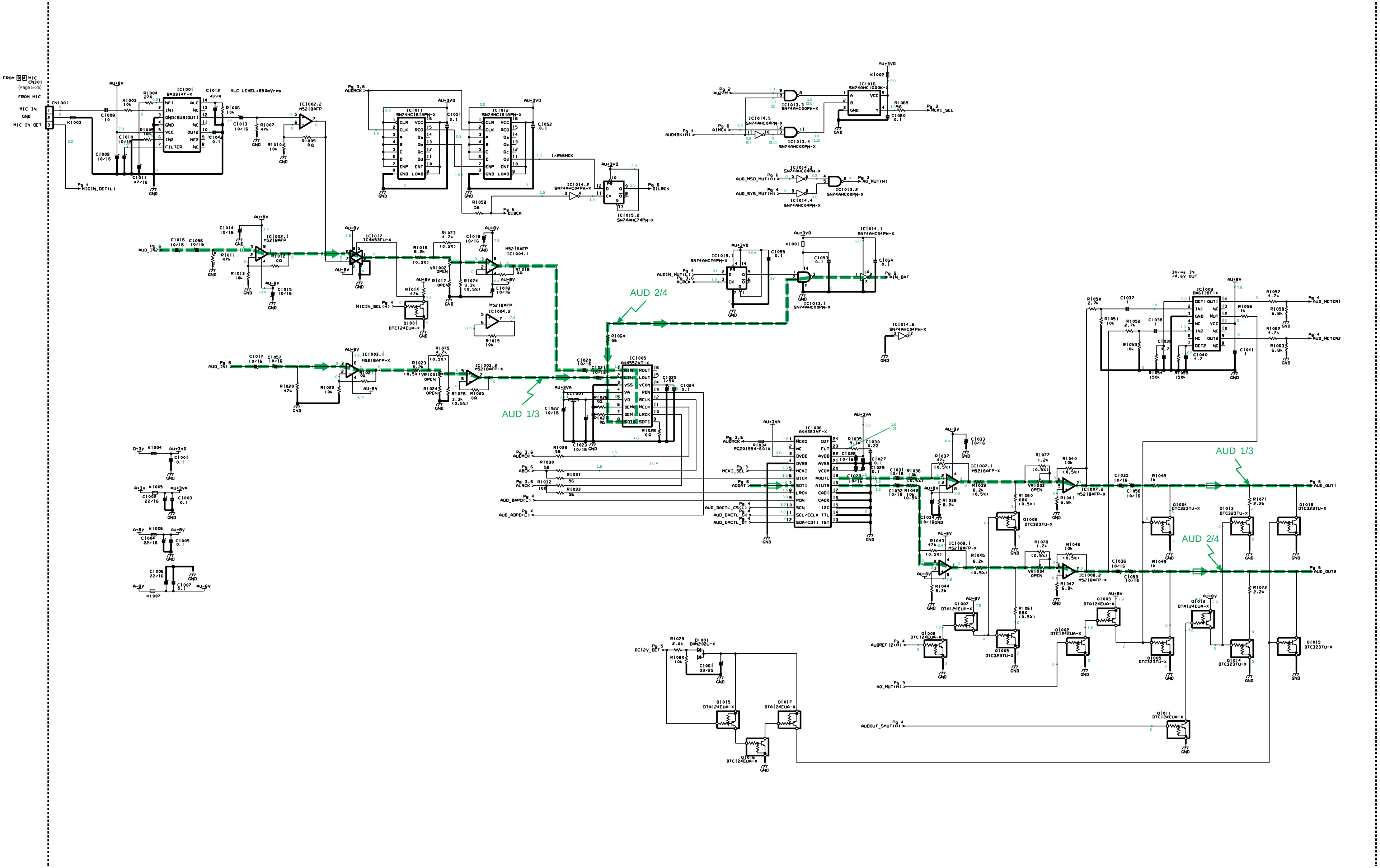

TP3
NTSC
TP3
PAL
LINE_IN
Composite (CPS)
CPS Y
CPS C
IC4
CXD2064Q
Y/C SEP
IC5
M51271FP-X
TP5
NTSC
TP5
PAL
TP6
NTSC
TP6
PAL
TP7
NTSC
TP7
PAL
TP8
PAL
CPS_Y
CPS_C
PAL_DET
NT_DET
BLK1
OSDY_OUT
OSDY_IN
OSDC_OUT
OSDC_IN
HSYNC
NTSC : 0
PAL : 3.0
NTSC : 5.0
PAL : 0

MAIN SCHEMATIC DIAGRAM 2/6

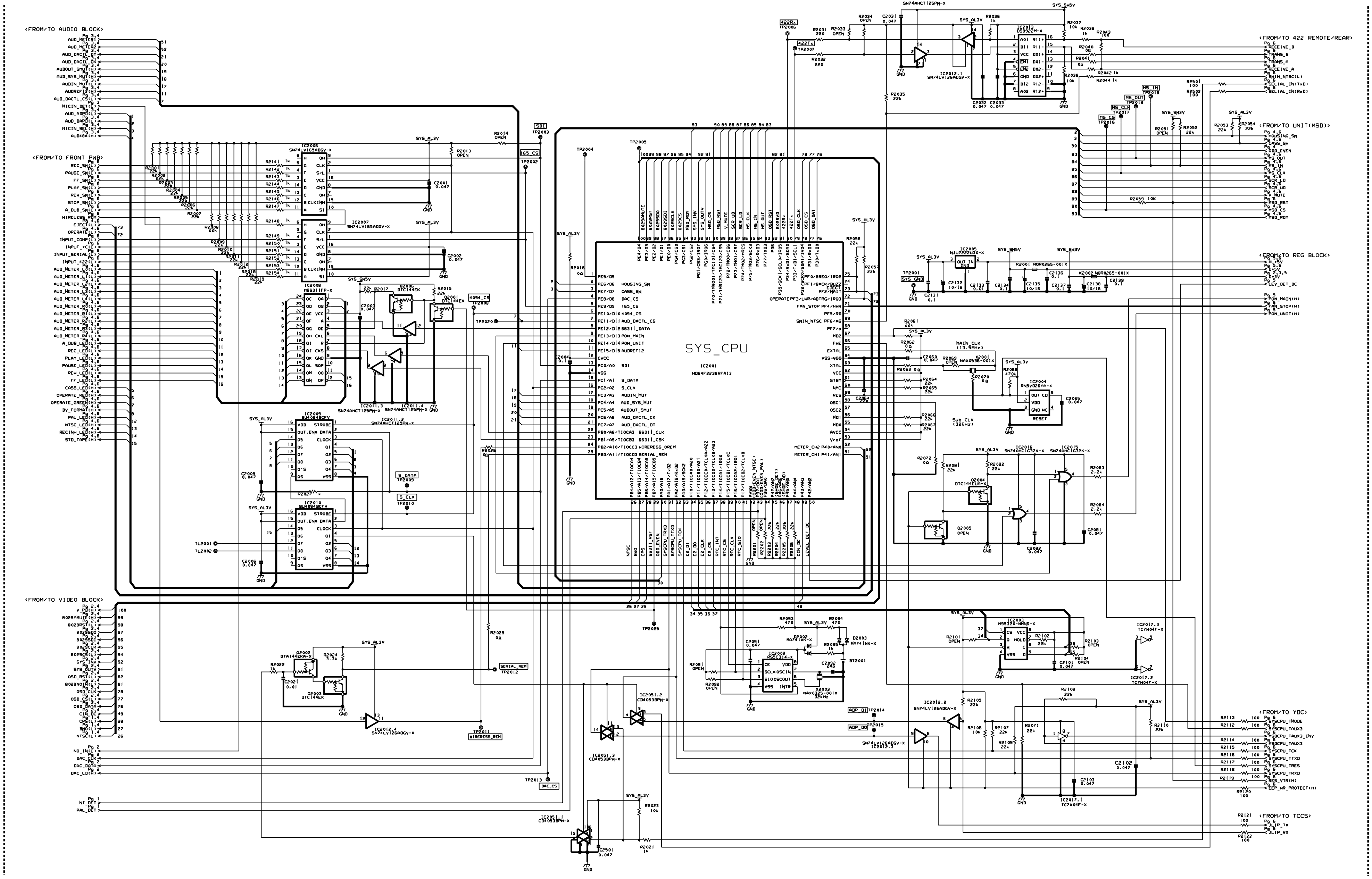


TP206 NTSC
TP206 PAL
TP205 NTSC
TP205 PAL
TP207 NTSC
TP207 PAL
TP208 NTSC
TP208 PAL
TP210 NTSC
TP210 PAL
TP211 NTSC
TP211 PAL
Y/C Y
CPS Y
Y/C C
CPS C
C OUT
LINE OUT
Y OUT
SEP Y
SEP C
ENC C
ENC Y
AGC
D/A
A/D
IC201 M62366GP-X
IC202 AN3916-LF/
IC203.1 OPEN
IC203.2 OPEN
IC204 UPD6467GR-519-X
IC206 TC4W53FU-X
IC207 MM1571JN-X
IC208 JCP8029
IC209 AD817AR-X
IC211 AD817AR-X
IC212 AD817AR-X
IC213 SN74AHC574PW-X
IC214 SN74AHC574PW-X
IC215 SN74AHC1GU04K-X
IC217 SN74AHC245DGV-X
IC218 AD817AR-X
K204
Y_IN
CPS_Y
CPS5(L)
C_IN
CIN_DC
CPS_C
C_OUT
LINE_OUT
Y_OUT
DAC_LD(H)
DAC_CLK
DAC_DATA
COMB_LEV
OSD_ADJ
NO_IN(L)
OSD_RST(L)
OSD_DATA
OSD_CS(L)
OSD_CLK
HSYNC
VC1
BLK1
OSC_IN
OSC_OUT
V_PB(H)
VD
B029NOIN(L)
B029AMUTE(H)
B029RST(L)
B029CS(L)
B029CLK
B029SDI
B029SDO
PBOUT[7:0]
SYS_OUTV
COUTV
COUTH
INV
SYS_INV
INH
RECDIN[7:0]
DET_INV
OSDC_OUT
OSDC_IN
OSDY_OUT
OSDY_IN
DV127M
TCC527M
AU27M

MAIN SCHEMATIC DIAGRAM 3/6


FROM MIC CN301 (Page 5-25)
FROM MIC
CN1001
MIC IN
GND
MIC IN DET
IC1001 BA3314F-X
ALC LEVEL:850mVrms
IC1002.2 M5218AFP
Pg 4 MICIN_DET(L)
IC1011 SN74HC161APW-X
IC1012 SN74HC161APW-X
1/256MCK
IC1014.2 SN74AHC04PW-X
IC1015.2 SN74AHC74PW-X
Pg 6 DILRCK
Pg 6 DIBCK
IC1016 SN74AHC1G00K-X
Pg 3 MCKI_SCL
IC1014.5 SN74AHC04PW-X
IC1013.3 SN74AHC00PW-X
IC1013.4 SN74AHC00PW-X
Pg 4 AUD48K(H)
IC1014.3 SN74AHC04PW-X
IC1014.4 SN74AHC04PW-X
IC1013.2 SN74AHC00PW-X
Pg 4 AUD_MSD_MUT(H)
Pg 4 AUD_SYS_MUT(H)
Pg 3 AO_MUT(H)
Pg 6 AUD_IN2
IC1002.1 M5218AFP
IC1017 TC4W53FU-X
M5218AFP IC1004.1
M5218AFP IC1004.2
Pg 4 MICIN_SEL(H)
Q1001 DTC124EUA-X
IC1015.1 SN74AHC74PW-X
Pg 4 AUDIN_MUT(L)
Pg 3,6 ALRCK
IC1014.1 SN74AHC04PW-X
IC1013.1 SN74AHC00PW-X
Pg 6 AIN_DAT
IC1014.6 SN74AHC04PW-X
AUD 2/4
3Vrms IN /4.6V OUT
IC1009 BA6138F-X
Pg 4 AUD_METER1
Pg 4 AUD_METER2
Pg 6 AUD_IN1
IC1003.1 M5218AFP-X
IC1003.2 M5218AFP-X
IC1005 AK4552VT-X
AUD 1/3
Pg 3,6 AUDMCK
Pg 6 ABCK
Pg 3,6 ALRCK
Pg 4 AUD_DAPD(L)
Pg 4 AUD_ADPD(L)
IC1006 AK4363VF-X
PGZ01994-SO1X
Pg 3 MCKI_SEL
Pg 6 AODAT
Pg 4 AUD_DACTL_CS(L)
Pg 4 AUD_DACTL_CK
Pg 4 AUD_DACTL_DT
IC1007.1 M5218AFP-X
IC1007.2 M5218AFP-X
IC1008.1 M5218AFP-X
IC1008.2 M5218AFP-X
AUD 1/3
Pg 6 AUD_OUT1
AUD 2/4
Pg 6 AUD_OUT2
Q1004 DTC323TU-X
Q1013 DTC323TU-X
Q1018 DTC323TU-X
Q1008 DTC323TU-X
Q1007 DTA124EUA-X
Q1003 DTA124EUA-X
Q1012 DTA124EUA-X
Q1006 DTC124EUA-X
Q1009 DTC323TU-X
Q1002 DTC124EUA-X
Q1005 DTC323TU-X
Q1014 DTC323TU-X
Q1019 DTC323TU-X
Pg 4 AUDREF12(H)
Pg 5 DC12V_DET
D1001 DAN202U-X
C1061 33/25
Pg 3 AO_MUT(H)
Q1015 DTA124EUA-X
Q1017 DTA124EUA-X
Q1016 DTC124EUA-X
Pg 4 AUDOUT_SMUT(H)
Q1011 DTC124EUA-X
D+3V
A+3V
A+8V
A-8V
AU+3VD
AU+3VA
AU+8V
AU-8V
GND

MAIN SCHEMATIC DIAGRAM 4/6



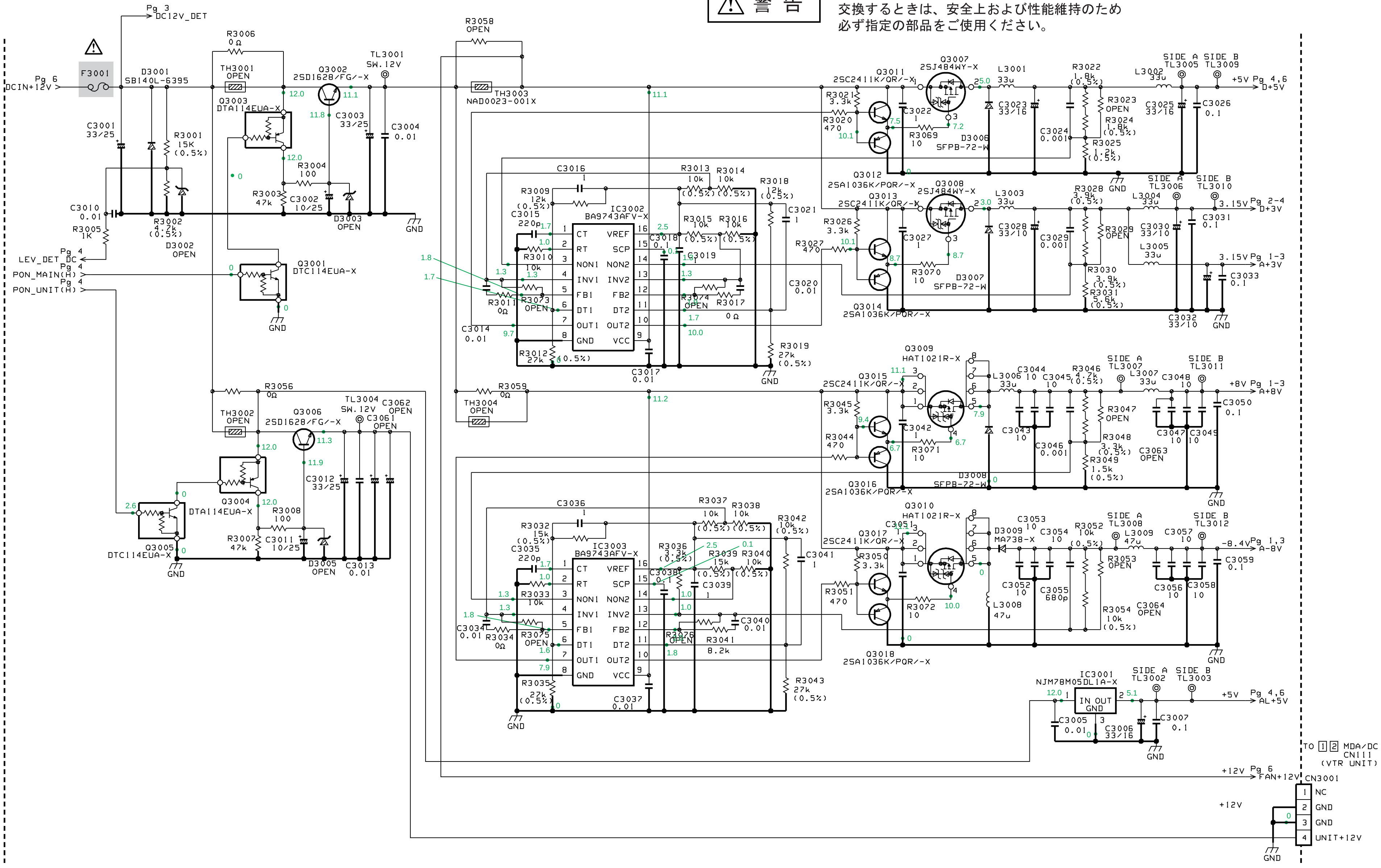
<FROM/TO AUDIO BLOCK>
<FROM/TO FRONT PWB>
<FROM/TO VIDEO BLOCK>
<FROM/TO 422 REMOTE/REAR>
<FROM/TO UNIT(MSD)>
<FROM/TO REG BLOCK>
<FROM/TO YDC>
<FROM/TO TCCS>
SYS_CPU
IC2001
HD64F2238RFA13
IC2006 SN74LV165ADGV-X
IC2007 SN74LV165ADGV-X
IC2008 M66311FP-X
IC2009 BU4094BCFV
IC2010 BU4094BCFV
IC2011.1 SN74AHCT125PW-X
IC2011.2 SN74AHCT125PW-X
IC2011.3 SN74AHCT125PW-X
IC2011.4 SN74AHCT125PW-X
IC2012.1 SN74LV126ADGV-X
IC2012.2 SN74LV126ADGV-X
IC2012.3
IC2012.4 SN74LV126ADGV-X
IC2013 DS8922M-X
IC2002 RS5C314-X
IC2003 M95320-WMN6-X
IC2004 RN5VD26AA-X
IC2005 NJU7222U30-X
IC2015 SN74AHC1G32K-X
IC2016 SN74AHC1G32K-X
IC2017.1 TC7W04F-X
IC2017.2 TC7W04F-X
IC2017.3 TC7W04F-X
IC2051.1 CD4053BPW-X
IC2051.2 CD4053BPW-X
IC2051.3 CD4053BPW-X
SYS_AL3V
SYS_SW5V
SYS_SW3V
GND
MAIN_CLK (13.5MHz)
X2001 NAX0536-001X
X2003 NAX0325-001X 32kHz
Sub_CLK (32kHz)
BT2001
D2002 MA741WK-X
D2003 MA741WK-X
Q2001 DTC144EK
Q2003 DTC144EK
Q2004 DTC144EUA-X
Q2005 OPEN
Q2006 DTC144EK
Q2002 DTA144EKA-X
K2001 NQR0265-001X
K2002 NQR0265-001X
TP2001 SYS_GND
TP2002 165_CS
TP2003 SDI
TP2004
TP2005
TP2006 422Rx
TP2007 422Tx
TP2008 4094_CS
TP2009 S_DATA
TP2010 S_CLK
TP2011 WIRERESS_REM
TP2012 SERIAL_REM
TP2013 DAC_CS
TP2014 ADP_DI
TP2015 ADP_DO
TP2016 MS_CS
TP2017 MS_CLK
TP2018 MS_IN
TP2019 MS_OUT
TP2020
TP2025
TL2001
TL2002
RESET

MAIN SCHEMATIC DIAGRAM 5/6

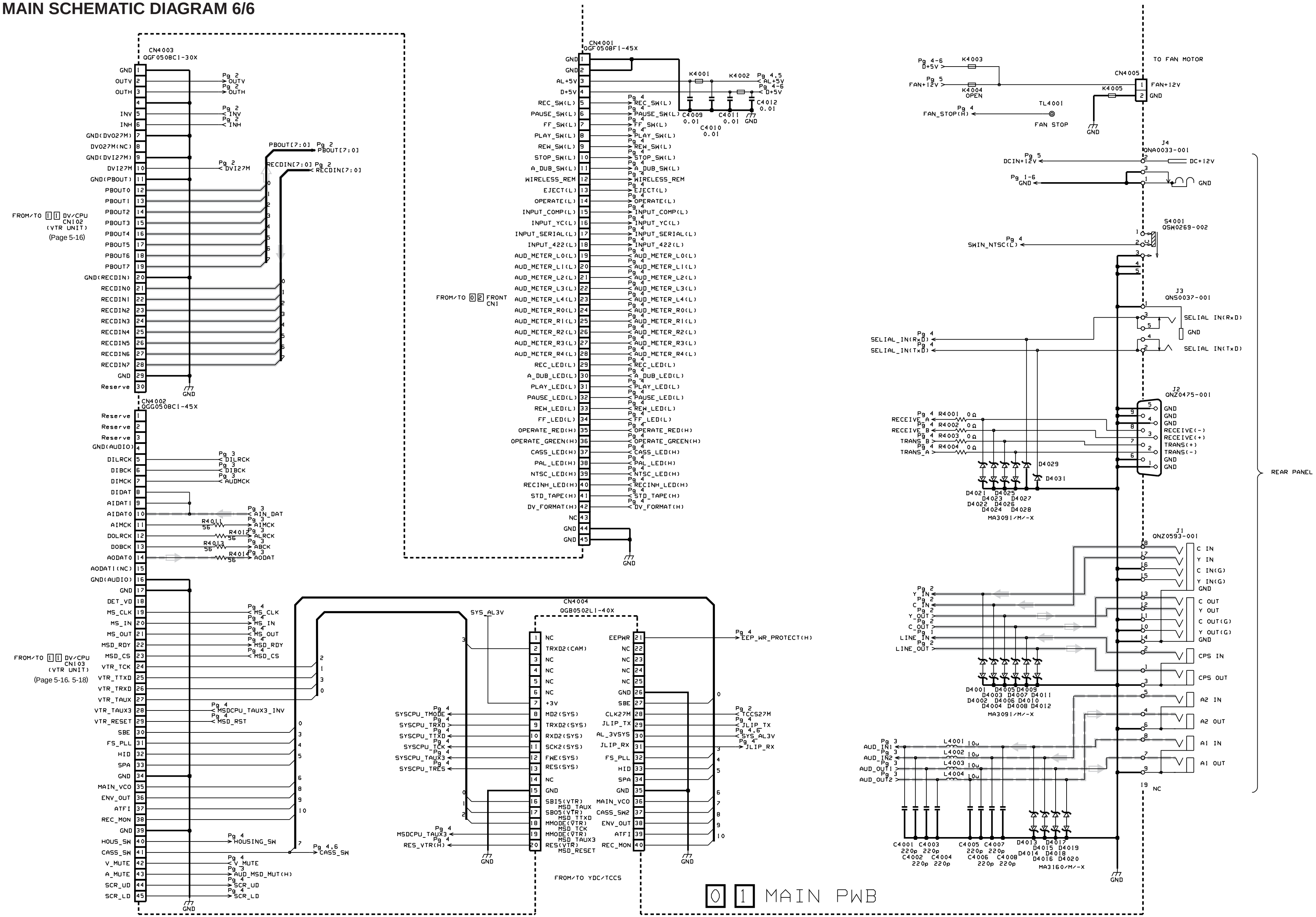
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

⚠ 警 告

⚠ 印の部品は安全上重要な部品です。
交換するときは、安全上および性能維持のため
必ず指定の部品をご使用ください。

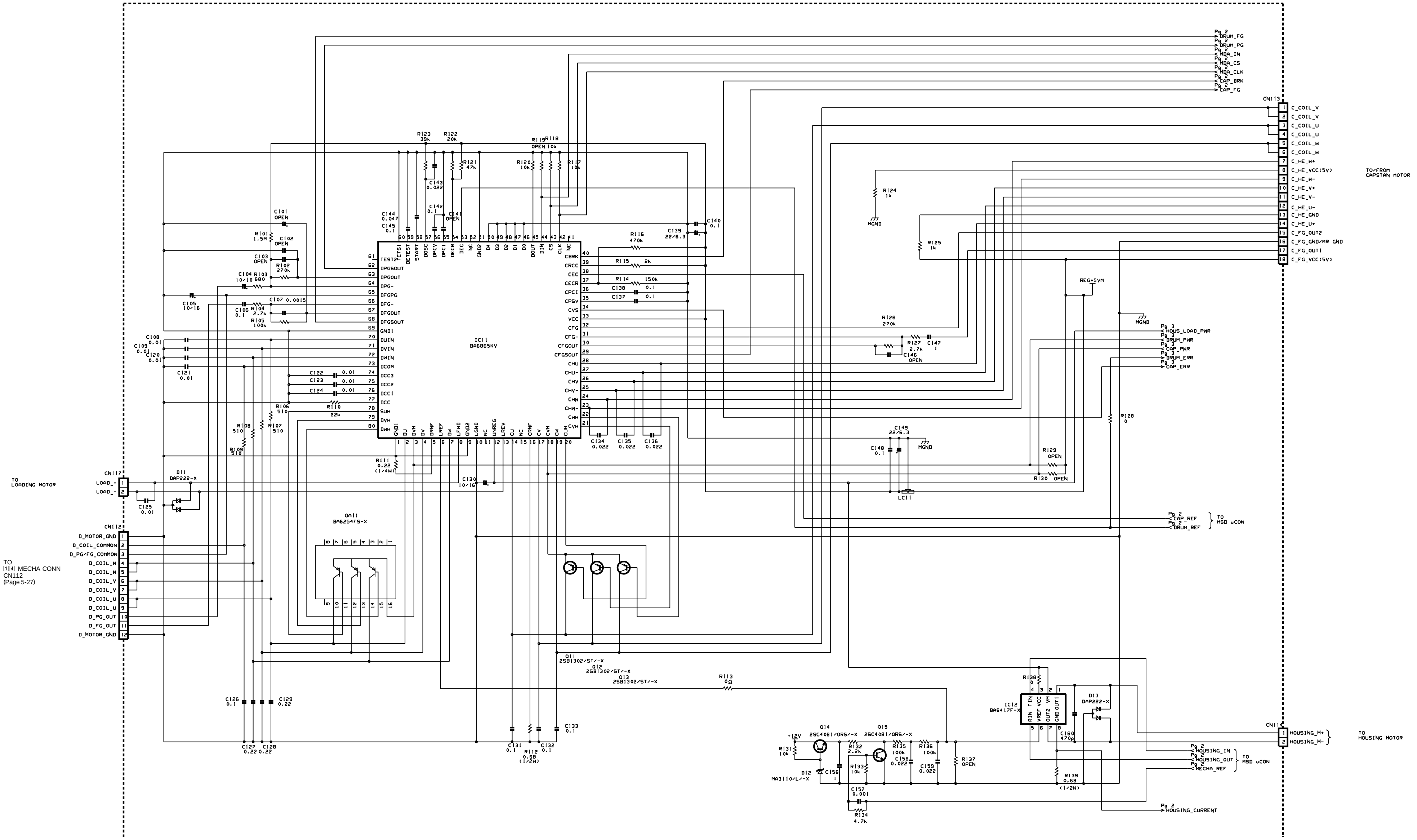

Pg 3 DC12V_DET
Pg 6 DCIN+12V
F3001
D3001 SB140L-6395
R3006 0Ω
TH3001 OPEN
Q3002 2SD1628/FG/-X
TL3001 SW.12V
R3058 OPEN
TH3003 NAD0023-001X
Q3003 DTA114EUA-X
C3001 33/25
R3001 15K (0.5%)
C3003 33/25
C3004 0.01
R3004 100
R3003 47k
C3002 10/25
D3003 OPEN
C3010 0.01
R3005 1K
R3002 4.7k (0.5%)
D3002 OPEN
Pg 4 LEV_DET_DC
Pg 4 PON_MAIN(H)
Pg 4 PON_UNIT(H)
Q3001 DTC114EUA-X
GND
R3056 0Ω
TH3002 OPEN
TL3004 SW.12V
C3062 OPEN
C3061 OPEN
Q3006 2SD1628/FG/-X
Q3004 DTA114EUA-X
R3008 100
R3007 47k
C3011 10/25
C3012 33/25
D3005 OPEN
C3013 0.01
Q3005 DTC114EUA-X
R3059 0Ω
TH3004 OPEN
C3016 1
IC3002 BA9743AFV-X
R3009 12k (0.5%)
C3015 220p
R3010 10k
R3011 0Ω
R3073 OPEN
C3014 0.01
R3012 27k (0.5%)
R3013 10k (0.5%)
R3014 10k (0.5%)
R3015 10k (0.5%)
R3016 10k (0.5%)
C3018 0.1
C3019 1
R3074 OPEN
R3017 0Ω
R3018 12k (0.5%)
C3021 1
C3020 0.01
C3017 0.01
R3019 27k (0.5%)
CT VREF RT SCP NON1 NON2 INV1 INV2 FB1 FB2 DT1 DT2 OUT1 OUT2 GND VCC
C3036 1
IC3003 BA9743AFV-X
R3032 15k (0.5%)
C3035 220p
R3033 10k
R3034 0Ω
R3075 OPEN
C3034 0.01
R3035 27k (0.5%)
R3036 3.3k (0.5%)
R3037 10k
R3038 10k
R3039 15k (0.5%)
R3040 10k (0.5%)
C3038 0.1
C3039 1
R3076 OPEN
R3041 8.2k
C3040 0.01
R3042 10k (0.5%)
C3041 1
C3037 0.01
R3043 27k (0.5%)
Q3011 2SC2411K/QR/-X
Q3007 2SJ484WY-X
L3001 33u
R3022 1.8k (0.5%)
L3002 33u
SIDE A TL3005
SIDE B TL3009
+5V Pg 4,6 D+5V
R3021 3.3k
R3020 470
C3022 1
R3069 10
D3006 SFPB-72-W
C3023 33/16
C3024 0.001
R3023 OPEN
R3024 1.8k (0.5%)
R3025 1.2k (0.5%)
C3025 33/16
C3026 0.1
Q3012 2SA1036K/PQR/-X
Q3013 2SC2411K/QR/-X
Q3008 2SJ484WY-X
L3003 33u
R3028 3.9k (0.5%)
L3004 33u
SIDE A TL3006
SIDE B TL3010
3.15V Pg 2-4 D+3V
R3026 3.3k
R3027 470
C3027 1
R3070 10
D3007 SFPB-72-W
C3028 33/10
C3029 0.001
R3029 OPEN
R3030 3.9k (0.5%)
R3031 5.6k (0.5%)
C3030 33/10
C3031 0.1
L3005 33u
3.15V Pg 1-3 A+3V
C3033 0.1
C3032 33/10
Q3014 2SA1036K/PQR/-X
Q3009 HAT1021R-X
Q3015 2SC2411K/QR/-X
L3006 10
C3044 10
C3045 10
R3046 4.7k (0.5%)
SIDE A TL3007
L3007 33u
C3048 10
SIDE B TL3011
+8V Pg 1-3 A+8V
R3045 3.3k
R3044 470
C3042 1
R3071 10
C3043 10
C3046 0.001
R3047 OPEN
R3048 3.3k (0.5%)
R3049 1.5k (0.5%)
C3047 10
C3049 10
C3063 OPEN
C3050 0.1
D3008 SFPB-72-W
Q3016 2SA1036K/PQR/-X
Q3010 HAT1021R-X
Q3017 2SC2411K/QR/-X
C3051 1
D3009 MA738-X
C3053 10
C3054 10
R3052 10k (0.5%)
SIDE A TL3008
L3009 47u
C3057 10
SIDE B TL3012
-8.4V Pg 1,3 A-8V
R3050 3.3k
R3051 470
R3072 10
L3008 47u
C3052 10
C3055 680p
R3053 OPEN
R3054 10k (0.5%)
C3064 OPEN
C3056 10
C3058 10
C3059 0.1
Q3018 2SA1036K/PQR/-X
IC3001 NJM78M05DL1A-X
IN OUT GND
SIDE A TL3002
SIDE B TL3003
+5V Pg 4,6 AL+5V
C3005 0.01
C3006 33/16
C3007 0.1
+12V Pg 6 FAN+12V
TO 1 2 MDA/DC CN111 (VTR UNIT)
CN3001
1 NC
2 GND
3 GND
4 UNIT+12V
+12V

MAIN SCHEMATIC DIAGRAM 6/6

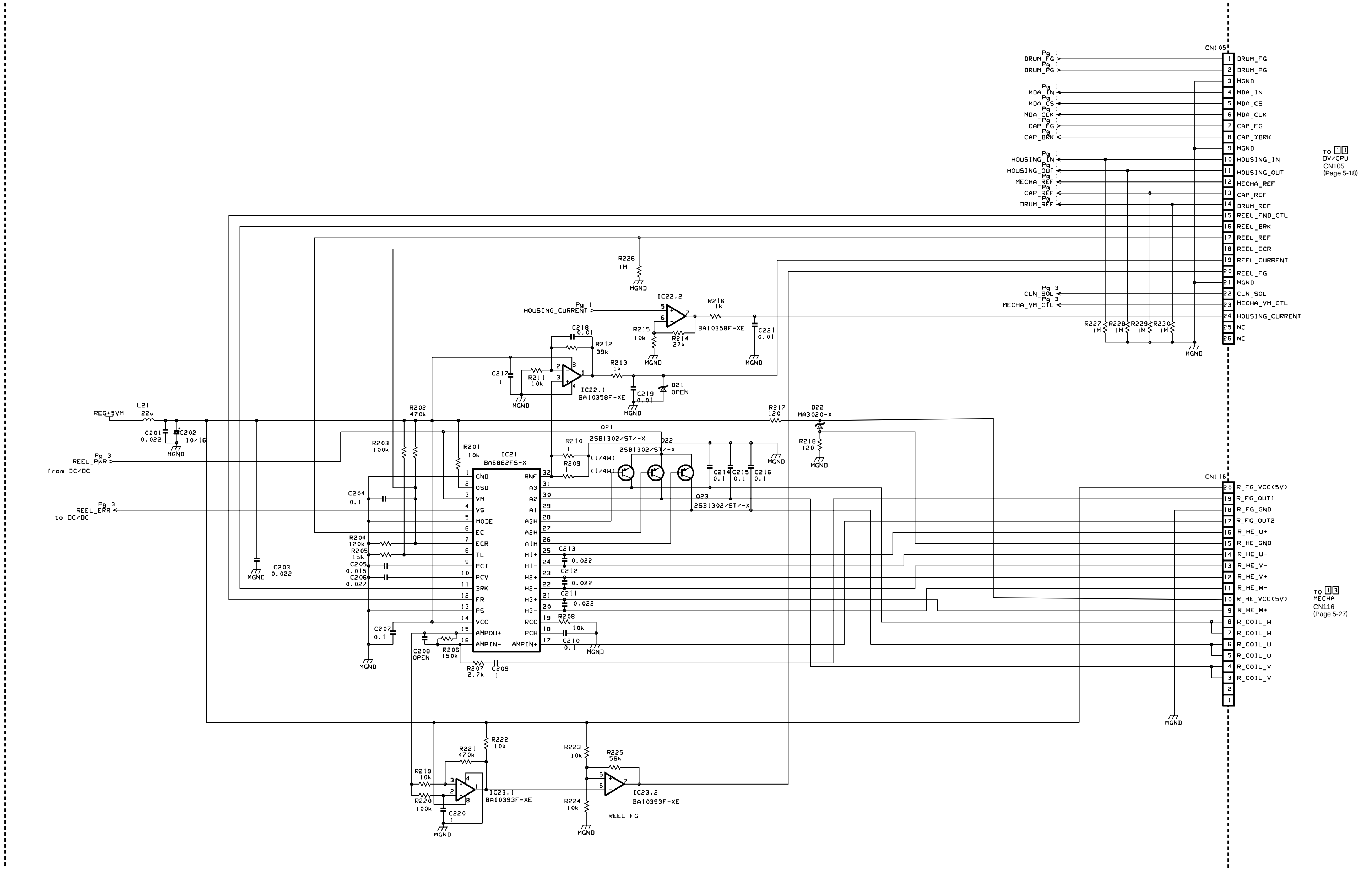


CN4003
QGF0508C1-30X
GND 1
OUTV 2
OUTH 3
4
INV 5
INH 6
GND(DV027M) 7
DV027M(NC) 8
GND(DVI27M) 9
DVI27M 10
GND(PBOUT) 11
PBOUT0 12
PBOUT1 13
PBOUT2 14
PBOUT3 15
PBOUT4 16
PBOUT5 17
PBOUT6 18
PBOUT7 19
GND(RECDIN) 20
RECDIN0 21
RECDIN1 22
RECDIN2 23
RECDIN3 24
RECDIN4 25
RECDIN5 26
RECDIN6 27
RECDIN7 28
GND 29
Reserve 30
Pg 2 OUTV
Pg 2 OUTH
Pg 2 INV
Pg 2 INH
Pg 2 DVI27M
PBOUT[7:0] Pg 2 PBOUT[7:0]
RECDIN[7:0] Pg 2 RECDIN[7:0]
FROM/TO 1 1 DV/CPU CN102 (VTR UNIT)
(Page 5-16)
CN4002
QGG0508C1-45X
Reserve 1
Reserve 2
Reserve 3
GND(AUDIO) 4
DILRCK 5
DIBCK 6
DIMCK 7
DIDAT 8
AIDAT1 9
AIDAT0 10
AIMCK 11
DOLRCK 12
DOBCK 13
AODAT0 14
AODAT1(NC) 15
GND(AUDIO) 16
GND 17
DET_VD 18
MS_CLK 19
MS_IN 20
MS_OUT 21
MSD_RDY 22
MSD_CS 23
VTR_TCK 24
VTR_TTXD 25
VTR_TRXD 26
VTR_TAUX 27
VTR_TAUX3 28
VTR_RESET 29
SBE 30
FS_PLL 31
HID 32
SPA 33
GND 34
MAIN_VCO 35
ENV_OUT 36
ATFI 37
REC_MON 38
GND 39
HOUS_SW 40
CASS_SW 41
V_MUTE 42
A_MUTE 43
SCR_UD 44
SCR_LD 45
Pg 3 DILRCK
Pg 3 DIBCK
Pg 3 AUDMCK
Pg 3 AIN_DAT
Pg 3 AIMCK
Pg 3 ALRCK
Pg 3 ABCK
Pg 3 AODAT
R4011 56
R4012 56
R4013 56
R4014 56
Pg 4 MS_CLK
Pg 4 MS_IN
Pg 4 MS_OUT
Pg 4 MSD_RDY
Pg 4 MSD_CS
Pg 4 MSDCPU_TAUX3_INV
Pg 4 MSD_RST
Pg 4 HOUSING_SW
Pg 4,6 CASS_SW
Pg 4 V_MUTE
Pg 3 AUD_MSD_MUT(H)
Pg 4 SCR_UD
Pg 4 SCR_LD
FROM/TO 1 1 DV/CPU CN103 (VTR UNIT)
(Page 5-16, 5-18)
GND
CN4001
QGF0508F1-45X
GND 1
GND 2
AL+5V 3
D+5V 4
REC_SW(L) 5
PAUSE_SW(L) 6
FF_SW(L) 7
PLAY_SW(L) 8
REW_SW(L) 9
STOP_SW(L) 10
A_DUB_SW(L) 11
WIRELESS_REM 12
EJECT(L) 13
OPERATE(L) 14
INPUT_COMP(L) 15
INPUT_YC(L) 16
INPUT_SERIAL(L) 17
INPUT_422(L) 18
AUD_METER_L0(L) 19
AUD_METER_L1(L) 20
AUD_METER_L2(L) 21
AUD_METER_L3(L) 22
AUD_METER_L4(L) 23
AUD_METER_R0(L) 24
AUD_METER_R1(L) 25
AUD_METER_R2(L) 26
AUD_METER_R3(L) 27
AUD_METER_R4(L) 28
REC_LED(L) 29
A_DUB_LED(L) 30
PLAY_LED(L) 31
PAUSE_LED(L) 32
REW_LED(L) 33
FF_LED(L) 34
OPERATE_RED(H) 35
OPERATE_GREEN(H) 36
CASS_LED(H) 37
PAL_LED(H) 38
NTSC_LED(H) 39
RECINH_LED(H) 40
STD_TAPE(H) 41
DV_FORMAT(H) 42
NC 43
GND 44
GND 45
K4001
K4002
Pg 4,5 AL+5V
Pg 4-6 D+5V
C4009 0.01
C4010 0.01
C4011 0.01
C4012 0.01
FROM/TO 0 2 FRONT CN1
CN4004
QGB0502L1-40X
SYS_AL3V
NC 1
TRXD2(CAM) 2
NC 3
NC 4
NC 5
NC 6
+3V 7
MD2(SYS) 8
TRXD2(SYS) 9
RXD2(SYS) 10
SCK2(SYS) 11
FWE(SYS) 12
RES(SYS) 13
NC 14
GND 15
SBI5(VTR) MSD_TAUX 16
SBO5(VTR) MSD_TTXD 17
MMODE(VTR) MSD_TCK 18
MMODE(VTR) MSD_TAUX3 19
RES(VTR) MSD_RESET 20
EEPWR 21
NC 22
NC 23
NC 24
NC 25
GND 26
SBE 27
CLK27M 28
JLIP_TX 29
AL_3VSYS 30
JLIP_RX 31
FS_PLL 32
HID 33
SPA 34
GND 35
MAIN_VCO 36
CASS_SW2 37
ENV_OUT 38
ATFI 39
REC_MON 40
Pg 4 SYSCPU_TMODE
Pg 4 SYSCPU_TRXD
Pg 4 SYSCPU_TTXD
Pg 4 SYSCPU_TCK
Pg 4 SYSCPU_TAUX3
Pg 4 SYSCPU_TRES
Pg 4 MSDCPU_TAUX3
Pg 4 RES_VTR(H)
Pg 4 EEP_WR_PROTECT(H)
Pg 2 TCCS27M
Pg 4 JLIP_TX
Pg 4,6 SYS_AL3V
Pg 4 JLIP_RX
FROM/TO YDC/TCCS
Pg 4-6 D+5V
K4003
Pg 5 FAN+12V
K4004 OPEN
K4005
CN4005
TO FAN MOTOR
FAN+12V 1
GND 2
TL4001
Pg 4 FAN_STOP(H)
FAN STOP
J4
QNA0033-001
Pg 5 DCIN+12V
DC+12V
Pg 1-6 GND
S4001
QSW0269-002
Pg 4 SWIN_NTSC(L)
J3
QNS0037-001
SELIAL IN(RxD)
GND
SELIAL IN(TxD)
Pg 4 SELIAL_IN(RxD)
SELIAL_IN(TxD)
J2
QNZ0475-001
GND
GND
GND
RECEIVE(-)
RECEIVE(+)
TRANS(+)
TRANS(-)
GND
GND
Pg 4 RECEIVE_A R4001 0Ω
Pg 4 RECEIVE_B R4002 0Ω
Pg 4 TRANS_B R4003 0Ω
Pg 4 TRANS_A R4004 0Ω
D4029
D4031
D4021 D4025
D4023 D4027
D4022 D4026
D4024 D4028
MA3091/M/-X
REAR PANEL
J1
QNZ0593-001
C IN
Y IN
C IN(G)
Y IN(G)
GND
C OUT
Y OUT
C OUT(G)
Y OUT(G)
GND
CPS IN
CPS OUT
A2 IN
A2 OUT
A1 IN
A1 OUT
NC
Pg 2 Y_IN
Pg 2 C_IN
Pg 2 Y_OUT
Pg 2 C_OUT
Pg 1 LINE_IN
Pg 2 LINE_OUT
D4001 D4005 D4009
D4003 D4007 D4011
D4002 D4006 D4010
D4004 D4008 D4012
MA3091/M/-X
Pg 3 AUD_IN1
Pg 3 AUD_IN2
Pg 3 AUD_OUT1
Pg 3 AUD_OUT2
L4001 10u
L4002 10u
L4003 10u
L4004 10u
C4001 C4003
220p 220p
C4002 C4004
220p 220p
C4005 C4007
220p 220p
C4006 C4008
220p 220p
D4013 D4017
D4015 D4019
D4014 D4018
D4016 D4020
MA3160/M/-X
GND
0 1 MAIN PWB

5.12 MDA/DC SCHEMATIC DIAGRAM 1/4


Pg 2 DRUM_FG
Pg 2 DRUM_PG
Pg 2 MDA_IN
Pg 2 MDA_CS
Pg 2 MDA_CLK
Pg 2 CAP_BRK
Pg 2 CAP_FG
CN113
1 C_COIL_V
2 C_COIL_V
3 C_COIL_U
4 C_COIL_U
5 C_COIL_W
6 C_COIL_W
7 C_HE_W+
8 C_HE_VCC(5V)
9 C_HE_W-
10 C_HE_V+
11 C_HE_V-
12 C_HE_U-
13 C_HE_GND
14 C_HE_U+
15 C_FG_OUT2
16 C_FG_GND/MR GND
17 C_FG_OUT1
18 C_FG_VCC(5V)
TO/FROM CAPSTAN MOTOR
R124 1k
MGND
R125 1k
REG+5VM
MGND
Pg 3 HOUS_LOAD_PWR
Pg 3 DRUM_PWR
Pg 3 CAP_PWR
Pg 3 DRUM_ERR
Pg 3 CAP_ERR
R126 270k
R127 2.7k
C147 1
C146 OPEN
R128 0
C149 22/6.3
C148 0.1
MGND
LC11
R129 OPEN
R130 OPEN
Pg 2 CAP_REF
Pg 2 DRUM_REF
TO MSD uCON
IC11 BA6865KV
TEST1 DETEST START DOSC DPCV DPCI DECV DECR NC GND2 D4 D3 D2 D1 D0 DOUT DIN CS CLK NC
CBRK CRCC CEC CCCR CPCI CPSV CVS VCC CFG CFG- CFGOUT CFGSOUT CHU CHU- CHV CHV- CHW CHW- CHH CVH
TEST2 DPGSOUT DPGOUT DPG- DFGPG DFG- DFGOUT DFGSOUT GND1 DUIN DVIN DWIN DCOM DCC3 DCC2 DCC1 DCC SUH DVH DWH
GND1 DU DWM DV DRNF LREF DW LFWD GND2 LGND NC UNREG LREV CU NC CRNF CV CVM CH CUH
R123 39k
R122 20k
R121 47k
R119 OPEN
R118 10k
R120 10k
R117 10k
C143 0.022
C142 0.1
C141 OPEN
C144 0.047
C145 0.1
R116 470k
C139 22/6.3
C140 0.1
R115 2k
R114 150k
C138 0.1
C137 0.1
C101 OPEN
R101 1.5M
C102 OPEN
C103 OPEN
R102 270k
C104 10/16
R103 680
C105 10/16
C106 0.1
R104 2.7k
C107 0.0015
R105 100k
C108 0.01
C109 0.01
C120 0.01
C121 0.01
C122 0.01
C123 0.01
C124 0.01
R106 510
R110 22k
R108 510
R107 510
R109 510
C134 0.022
C135 0.022
C136 0.022
R111 0.22 (1/4W)
C130 10/16
CN117
TO LOADING MOTOR
1 LOAD_+
2 LOAD_-
D11 DAP222-X
C125 0.01
CN112
1 D_MOTOR_GND
2 D_COIL_COMMON
3 D_PG/FG_COMMON
4 D_COIL_W
5 D_COIL_W
6 D_COIL_V
7 D_COIL_V
8 D_COIL_U
9 D_COIL_U
10 D_PG_OUT
11 D_FG_OUT
12 D_MOTOR_GND
TO 1 4 MECHA CONN CN112 (Page 5-27)
QA11 BA6254FS-X
Q11 2SB1302/ST/-X
Q12 2SB1302/ST/-X
Q13 2SB1302/ST/-X
R113 0Ω
C126 0.1
C127 0.22
C128 0.22
C129 0.22
C131 0.1
R112 0.68 (1/2W)
C132 0.1
C133 0.1
Q14 2SC4081/QRS/-X
Q15 2SC4081/QRS/-X
+12V
R131 10k
D12 MA3110/L/-X
C156 1
R132 2.2k
R133 10k
C157 0.001
R134 4.7k
R135 100k
C158 0.022
R136 100k
C159 0.022
R137 OPEN
R138 0
IC12 BA6417F-X
FIN VCC VM RIN VREF OUT2 GND OUT1
C160 470p
D13 DAP222-X
R139 0.68 (1/2W)
CN114
1 HOUSING_M+
2 HOUSING_M-
TO HOUSING MOTOR
Pg 2 HOUSING_IN
Pg 2 HOUSING_OUT
Pg 2 MECHA_REF
TO MSD uCON
Pg 2 HOUSING_CURRENT

MDA/DC SCHEMATIC DIAGRAM 2/4

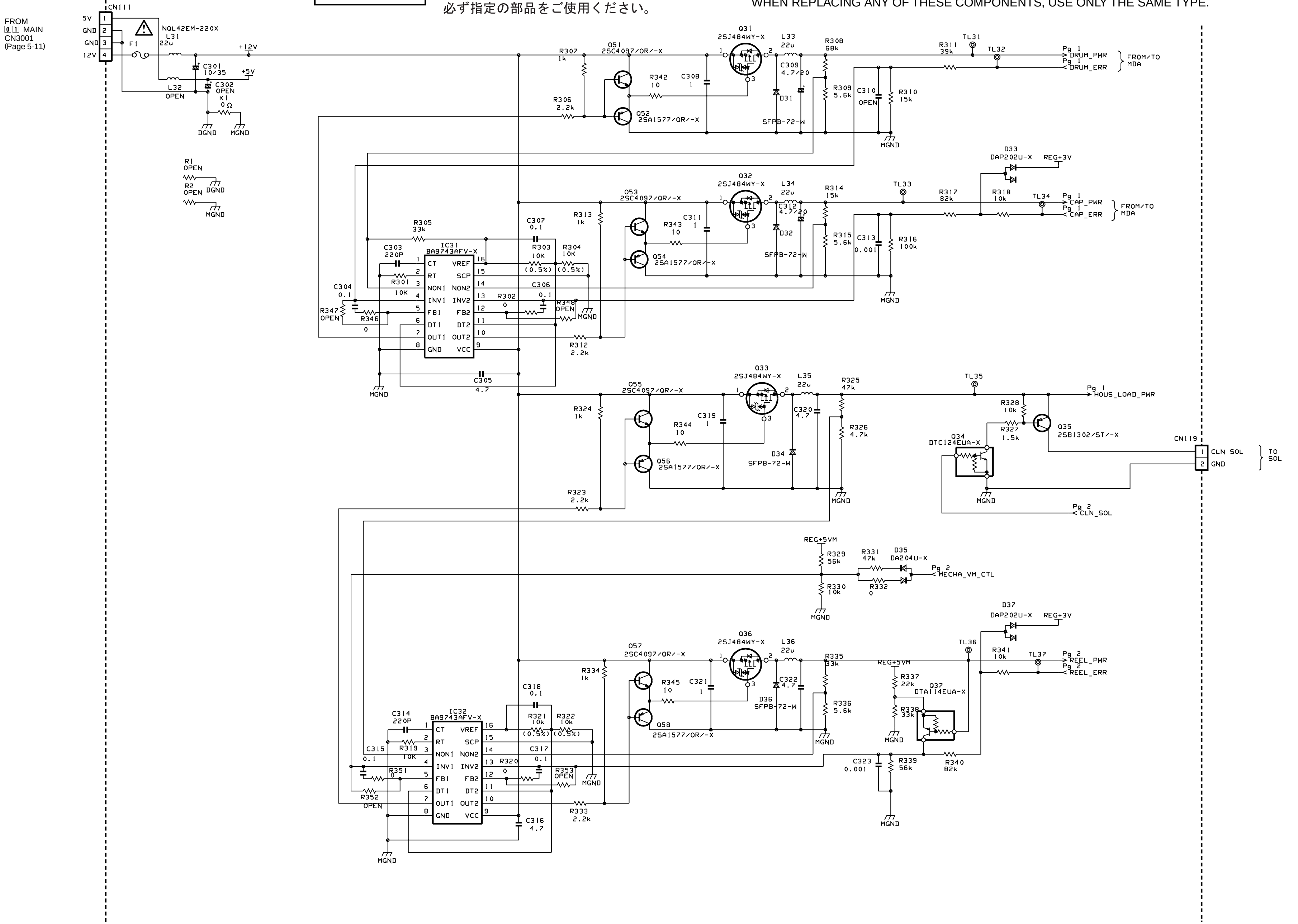

CN105
DRUM_FG
DRUM_PG
MGND
MDA_IN
MDA_CS
MDA_CLK
CAP_FG
CAP_¥BRK
HOUSING_IN
HOUSING_OUT
MECHA_REF
CAP_REF
DRUM_REF
REEL_FWD_CTL
REEL_BRK
REEL_REF
REEL_ECR
REEL_CURRENT
REEL_FG
CLN_SOL
MECHA_VM_CTL
HOUSING_CURRENT
NC
Pg 1
Pg 3
CAP_BRK
TO 1I
DV/CPU
CN105
(Page 5-18)
R226
1M
IC22.2
BA10358F-XE
R216
1k
R215
10k
R214
27k
C221
0.01
C218
0.01
R212
39k
R213
1k
C217
1
R211
10k
IC22.1
BA10358F-XE
C219
0.01
D21
OPEN
R227
R228
R229
R230
1M
REG+5VM
L21
22u
C201
0.022
C202
10/16
REEL_PWR
from DC/DC
REEL_ERR
to DC/DC
R202
470k
R203
100k
R201
10k
IC21
BA6862FS-X
R217
120
D22
MA3020-X
R218
120
Q21
2SB1302/ST/-X
Q22
2SB1302/ST/-X
Q23
2SB1302/ST/-X
R210
1
R209
1
(1/4W)
C214
0.1
C215
0.1
C216
0.1
GND
OSD
VM
VS
MODE
EC
ECR
TL
PCI
PCV
BRK
FR
PS
VCC
AMPOU+
AMPIN-
RNF
A3
A2
A1
A3H
A2H
A1H
H1+
H1-
H2+
H2-
H3+
H3-
RCC
PCH
AMPIN+
C204
0.1
R204
120k
R205
15k
C205
0.015
C206
0.027
C203
0.022
C207
0.1
C208
OPEN
R206
150k
R207
2.7k
C209
1
C213
0.022
C212
0.022
C211
0.022
R208
10k
C210
0.1
CN116
R_FG_VCC(5V)
R_FG_OUT1
R_FG_GND
R_FG_OUT2
R_HE_U+
R_HE_GND
R_HE_U-
R_HE_V-
R_HE_V+
R_HE_W-
R_HE_VCC(5V)
R_HE_W+
R_COIL_W
R_COIL_U
R_COIL_V
TO 13
MECHA
CN116
(Page 5-27)
R222
10k
R221
470k
R219
10k
R220
100k
C220
1
IC23.1
BA10393F-XE
R223
10k
R225
56k
R224
10k
IC23.2
BA10393F-XE
REEL FG
MGND

MDA/DC SCHEMATIC DIAGRAM 3/4

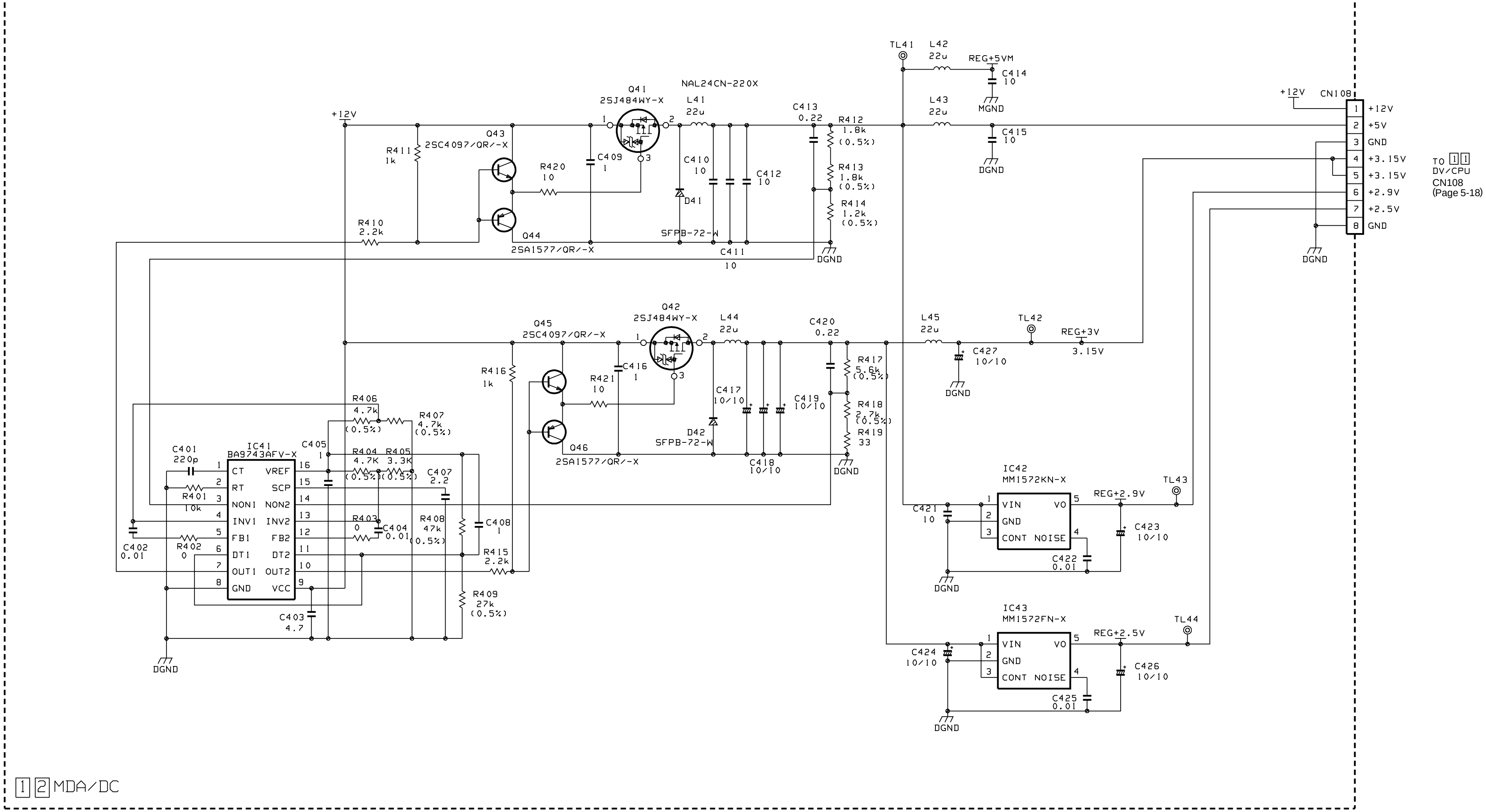
⚠ 警 告

⚠ 印の部品は安全上重要な部品です。
交換するときは、安全上および性能維持のため
必ず指定の部品をご使用ください。

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.


FROM
01 MAIN
CN3001
(Page 5-11)
CN111
5V
GND
GND
12V
NQL42EM-220X
L31 22u
F1
+12V
C301 10/35
+5V
L32 OPEN
C302 OPEN
K1 0Ω
DGND
MGND
R1 OPEN
R2 OPEN
DGND
MGND
R307 1k
Q51 2SC4097/QR/-X
Q31 2SJ484WY-X
L33 22u
R308 68k
R311 39k
TL31
TL32
Pg 1 DRUM_PWR
Pg 1 DRUM_ERR
FROM/TO MDA
R342 10
C308 1
C309 4.7/20
R309 5.6k
C310 OPEN
R310 15k
R306 2.2k
Q52 2SA1577/QR/-X
D31
SFPB-72-W
D33 DAP202U-X
REG+3V
Q53 2SC4097/QR/-X
Q32 2SJ484WY-X
L34 22u
R314 15k
TL33
R317 82k
R318 10k
TL34
Pg 1 CAP_PWR
Pg 1 CAP_ERR
FROM/TO MDA
R313 1k
R343 10
C311 1
C312 4.7/20
D32
R315 5.6k
C313 0.001
R316 100k
Q54 2SA1577/QR/-X
R305 33k
C307 0.1
IC31 BA9743AFV-X
C303 220P
R303 10K (0.5%)
R304 10K (0.5%)
CT VREF
RT SCP
NON1 NON2
INV1 INV2
FB1 FB2
DT1 DT2
OUT1 OUT2
GND VCC
R301 10K
C304 0.1
C306 0.1
R302 0
R348 OPEN
R347 OPEN
R346 0
R312 2.2k
C305 4.7
Q33 2SJ484WY-X
L35 22u
R325 47k
TL35
Pg 1 HOUS_LOAD_PWR
Q55 2SC4097/QR/-X
R324 1k
C319 1
R344 10
C320 4.7
R326 4.7k
R328 10k
R327 1.5k
Q35 2SB1302/ST/-X
Q34 DTC124EUA-X
CN119
CLN SOL
GND
TO SOL
Q56 2SA1577/QR/-X
D34 SFPB-72-W
R323 2.2k
Pg 2 CLN_SOL
REG+5VM
R329 56k
R331 47k
D35 DA204U-X
Pg 2 MECHA_VM_CTL
R332 0
R330 10k
D37 DAP202U-X
REG+3V
Q36 2SJ484WY-X
L36 22u
TL36
Q57 2SC4097/QR/-X
R335 33k
REG+5VM
R341 10k
TL37
Pg 2 REEL_PWR
Pg 2 REEL_ERR
R334 1k
R345 10
C321 1
C322 4.7
R337 22k
Q37 DTA114EUA-X
D36 SFPB-72-W
R336 5.6k
R338 33k
C318 0.1
IC32 BA9743AFV-X
C314 220P
R321 10k (0.5%)
R322 10k (0.5%)
Q58 2SA1577/QR/-X
C315 0.1
R319 10K
C317 0.1
R351 0
R320 0
R353 OPEN
C323 0.001
R339 56k
R340 82k
R352 OPEN
R333 2.2k
C316 4.7

MDA/DC SCHEMATIC DIAGRAM 4/4


TL41
L42
22u
REG+5VM
C414
10
MGND
Q41
2SJ484WY-X
NAL24CN-220X
L41
22u
C413
0.22
R412
1.8k
(0.5%)
L43
22u
C415
10
DGND
+12V
CN108
1 +12V
2 +5V
3 GND
4 +3.15V
5 +3.15V
6 +2.9V
7 +2.5V
8 GND
DGND
TO 1 1
DV/CPU
CN108
(Page 5-18)
+12V
R411
1k
Q43
2SC4097/QR/-X
R420
10
C409
1
C410
10
C412
10
D41
R413
1.8k
(0.5%)
R414
1.2k
(0.5%)
R410
2.2k
Q44
2SA1577/QR/-X
SFPB-72-W
C411
10
DGND
Q42
2SJ484WY-X
Q45
2SC4097/QR/-X
L44
22u
C420
0.22
L45
22u
TL42
REG+3V
3.15V
C427
10/10
DGND
R416
1k
C416
1
R421
10
R417
5.6k
(0.5%)
C417
10/10
C419
10/10
R418
2.7k
(0.5%)
R419
33
D42
SFPB-72-W
Q46
2SA1577/QR/-X
C418
10/10
DGND
R406
4.7k
(0.5%)
R407
4.7k
(0.5%)
C401
220p
IC41
BA9743AFV-X
C405
1
R404
4.7K
(0.5%)
R405
3.3K
(0.5%)
C407
2.2
1 CT
2 RT
3 NON1
4 INV1
5 FB1
6 DT1
7 OUT1
8 GND
16 VREF
15 SCP
14 NON2
13 INV2
12 FB2
11 DT2
10 OUT2
9 VCC
R401
10k
R403
0
C404
0.01
R408
47k
(0.5%)
C408
1
C402
0.01
R402
0
R415
2.2k
R409
27k
(0.5%)
C403
4.7
DGND
IC42
MM1572KN-X
1 VIN
2 GND
3 CONT
5 VO
4 NOISE
REG+2.9V
TL43
C421
10
C423
10/10
C422
0.01
DGND
IC43
MM1572FN-X
1 VIN
2 GND
3 CONT
5 VO
4 NOISE
REG+2.5V
TL44
C424
10/10
C426
10/10
C425
0.01
DGND
1 2 MDA/DC

SECTION 2
MECHANICAL ADJUSTMENTS

2.1 BEFORE ADJUSTMENTS

2.1.1 Precautions

1) Be sure to apply a screw securing torque when attaching a part.
   The securing torque should be 0.14 N/m (1.4 kgf/cm) unless otherwise specified.
2) Always unplug the power cord of the set before attaching, removing or soldering a part.
3) When unplugging a connector, do not pull the wire but grasp the connector body.
4) Do not make an adjustment or rotate a potentiometer blindly while the source of trouble is not identified.
5) Before adjusting electrical circuitry, be sure to wait for more than 10 minutes after turning the power on.

2.1.2 Measuring instruments required for adjustments

Instrument	Condition
Oscilloscope	Calibrated instrument with measuring bandwidth of 100 MHz or more.

Table 2-1-1

2.1.3 Equipment required for adjustments

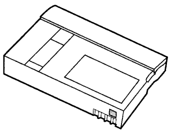
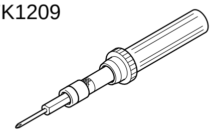
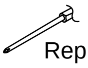
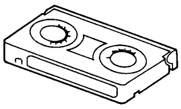
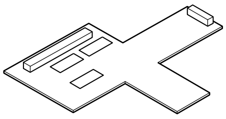
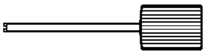
1	Alignment tape	4	Torque screwdriver
VFK1842 		VFK1209 	VFK1845  Replaceable bit (long type)
2	Cassette torque meter	5	REWRITE board (Connector board)
VFK1843 for FWD mode VFK1844 for REV mode 		VFK1846 	
3	Post driver		
VFK1149 			

Table 2-1-2

2.2 DISASSEMBLY/ASSEMBLY OF THE MECHANISM

2.2.1 Mechanism position for disassembly/assembly

The mechanism should basically be disassembled and assembled in the unloading end (No Cassette) position.
However, other mechanism position is sometimes required for disassembly or assembly. In such a case, the required position is specified every time in the descriptions in 2.6, “Replacement of major parts”.

2.2.2 Mode transition

To change the mechanism mode manually, rotate the emergency gear of the mode motor assembly shown in Fig. 2.2.1 as below while holding it down.
The mechanism mode can be changed by applying 3 V DC to the mode motor electrodes.
The MINI and STD reel positions can be changed over by manually sliding the reel change plate.

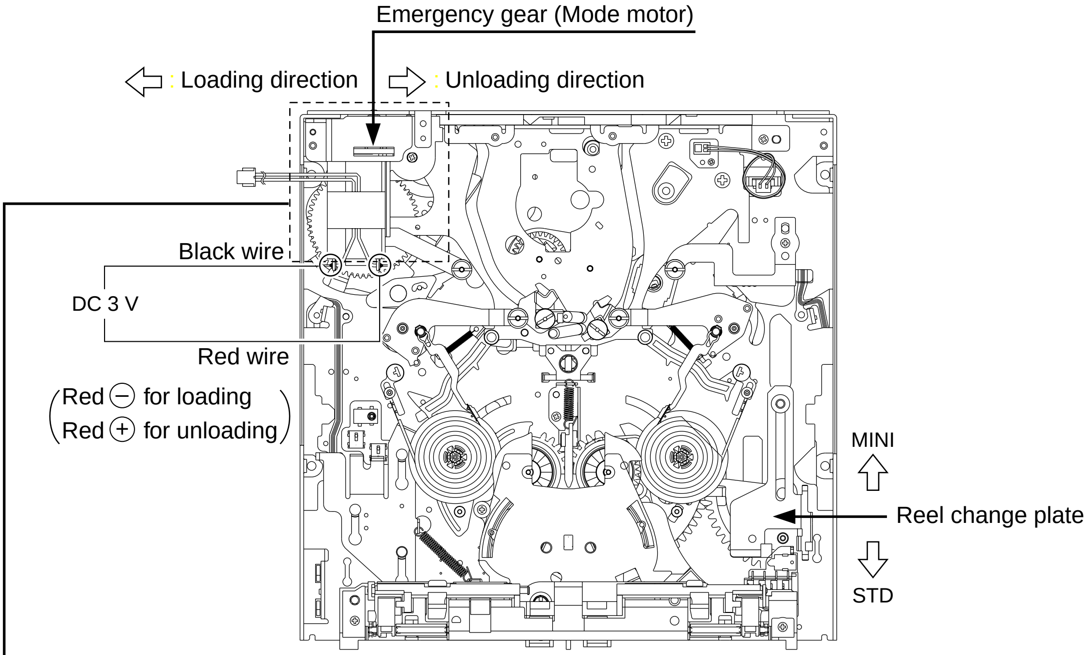

Emergency gear (Mode motor)
⇦ : Loading direction
⇨ : Unloading direction
Black wire
DC 3 V
Red wire
Red ⊖ for loading
Red ⊕ for unloading
MINI
Reel change plate
STD

Fig. 2.2.1

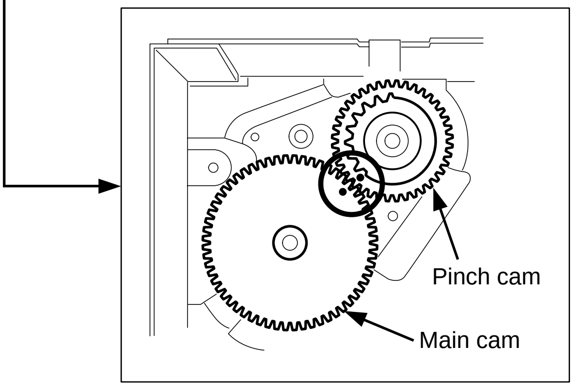

Pinch cam
Main cam

Fig. 2.2.2

Important:
When turn the Emergency gear (Mode) to Unloading direction by hand until the hole of the Main cam and the hole of the pinch cam in a straitline connecting. (refer to Fig.2.2.2)
Please do not turn the Emergency gear (Mode) more than the above.

2.3 MECHANISM TIMING CHART

See Table 2-3-1 below.

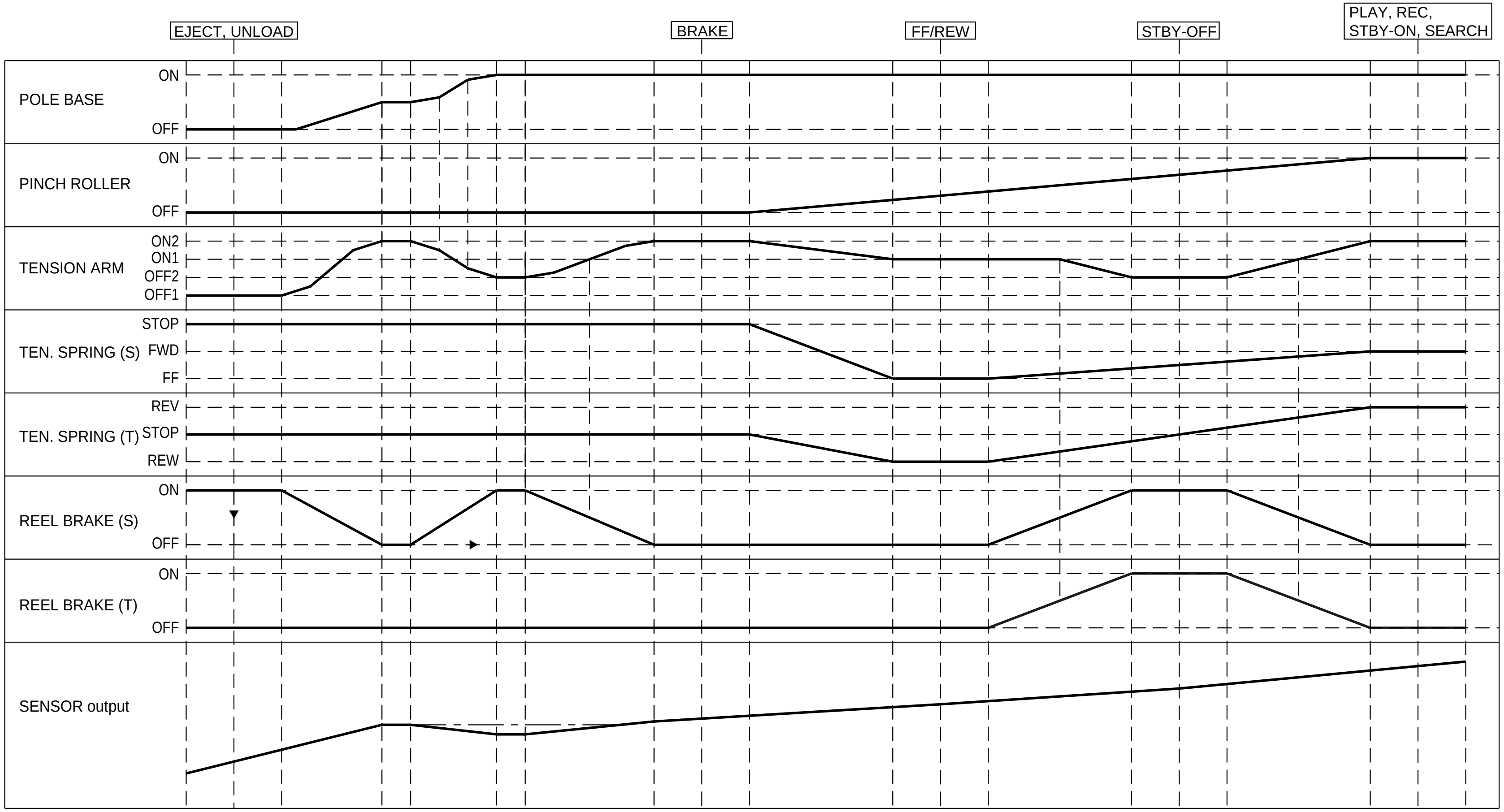


Table 2-3-1

2.4 MAINTENANCE AND INSPECTION OF MAJOR PARTS

Periodical inspection and maintenance are requisite to maintain the initial performance and reliability of the product. Table 2-4-1 (Maintenance & Inspection List) has been compiled assuming standard operating conditions, and the specifications in the table are greatly variable depending on the actual operating environment and conditions. Remember that, if the maintenance and inspection are not enforced properly, the operating hours of the product will not only reduce considerably but other unfavorable influences may produce.

Rubber parts may deform or degrade after long period of storage even if they are not used in this period.

The service life of the drum is variable depending on the tape used and operating environment.

2.4.1 Layout of Major Parts

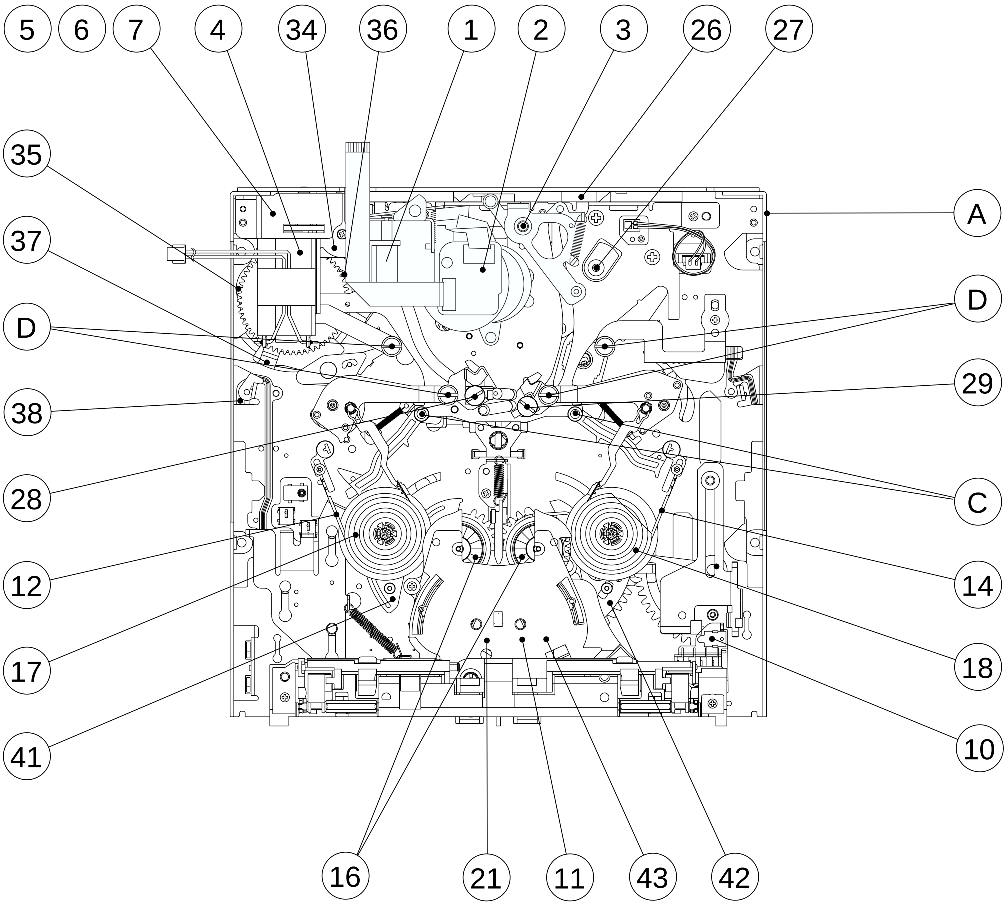


Fig. 2.4.1

2.4.2 Maintenance/inspection table

1) Replace the whole mechanism assembly in the 6000H maintenance.
2) The SUP/TU tension arm assemblies, sub-deck assembly (ENT. G. roller section) and EGR ARM assembly have undergone perpendicularity management after being assembled. If any of the above assemblies needs replacement, the whole mechanism assembly should be replaced.

	Part Name	Symbol No.	Operating Hours (DRUM Hour Meter)												Ref. Section
			500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	
1	㉘ SUP P. BASE ASSEMBLY	M 3 66	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.6.17
2	㉙ TU P. BASE ASSEMBLY	M 3 67	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.6.17
3	Ⓓ GUIDE ROLLER	M 3 30	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.4.1
4	Ⓓ COLLER	M 3 31	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.4.1
5	Ⓓ FRANGE	M 3 32	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.4.1
6	③ PINCH R.ARM ASSEMBLY	M 3 4	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.6.3
7	② DRUM ASSEMBLY	M 3 80	★	★	★	●	★	★	★	●	★	★	★	—	2.6.2
8	㉗ CAPSTAN SHAFT	M 3 64	★	★	★	★	★	★	★	★	★	★	★	—	
9	㉗ CAPSTAN MOTOR	M 3 64	—	—	—	—	—	—	—	—	—	○	—	—	2.6.16
10	㉑ REEL MOTOR	M 3 24	—	—	—	—	—	—	—	—	—	○	—	—	2.6.13
11	⑩ M.I.C. terminal	M 3 51	★	★	★	★	★	★	★	★	★	★	★	—	
12	⑩ M.I.C. CONNECTOR ㊸ FPC 1 ASSEMBLY ⑪ IDLER COVER	M 3 51 M 3 49 M 3 52	— ★ —	— ★ —	— ★ —	— ★ —	— ★ —	— ★ —	— ★ —	— ★ —	— ★ —	— ★ —	— ★ —	— — —	2.6.6 2.6.25 2.6.7
13	Ⓒ CASSETTE GUIDE PIN		★	★	★	★	★	★	★	★	★	★	★	—	2.4.1
15	④ MODE MOTOR ASSEMBLY	M 3 47	—	—	—	—	—	—	—	—	—	—	—	—	2.6.4
16	㉟ MAIN CAM	M 3 12	—	—	—	—	—	—	—	—	—	—	—	—	2.6.20
17	⑥ GEAR 1	M 3 44	—	—	—	—	—	—	—	—	—	—	—	—	2.6.4
18	⑦ GEAR 2	M 3 45	—	—	—	—	—	—	—	—	—	—	—	—	2.6.4
19	⑤ WORM WHEEL	M 3 46	—	—	—	—	—	—	—	—	—	—	—	—	2.6.4
20	㉞ PINCH CAM GEAR	M 3 13	—	—	—	—	—	—	—	—	—	—	—	—	2.6.20
21	㉖ PINCH PLATE	M 3 17	—	—	—	—	—	—	—	—	—	—	—	—	2.6.16
22	㊳ CTL. PLATE	M 3 9	—	—	—	—	—	—	—	—	—	—	—	—	2.6.22
23	㊲ CTL. ARM ASSEMBLY	M 3 56	—	—	—	—	—	—	—	—	—	—	—	—	2.6.21
24	㊱ ARM GEAR	M 3 11	—	—	—	—	—	—	—	—	—	—	—	—	2.6.21
25	㊶ SUP REEL PLATE ASSEMBLY	M 3 54	—	—	—	—	—	—	—	—	—	—	—	—	2.6.24
26	㊷ TU REEL PLATE ASSEMBLY	M 3 55	—	—	—	—	—	—	—	—	—	—	—	—	2.6.24
27	⑰ SUP REEL DISK ASSEMBLY	M 3 35	—	○	—	●△	—	○	—	●△	—	○	—	—	2.6.10
28	⑱ TU REEL DISK ASSEMBLY	M 3 36	—	○	—	●△	—	○	—	●△	—	○	—	—	2.6.10
29	⑯ CONN. GEAR ASSEMBLY	M 3 37	—	○	—	●△	—	○	—	●△	—	○	—	—	2.6.10
30	⑫ SUP TENSION BAND ASSEMBLY	M 3 38	—	○	—	●	—	○	—	●	—	○	—	—	2.6.8
31	⑭ TU TENSION BAND ASSEMBLY	M 3 39	—	○	—	●	—	○	—	●	—	○	—	—	2.6.9
32	⑪ IDLER ARM ASSEMBLY	M 3 40	—	○	—	●	○	○	—	●	—	○	—	—	2.6.7
33	① HEAD CLEANAER	M 3 5A	○	●	○	●	—	●	○	●	○	●	○	—	2.6.2
34	Ⓑ CASSETTE HOUSING ASSEMBLY	M 3 90	—	—	—	—	—	—	—	—	—	—	—	—	2.6.1
35	Ⓐ MECHANISM ASSEMBLY	M 3 1	—	—	—	—		—	—	—	—	—	—	●	

★: Clean with ethyl alcohol. ○: Check and replace if required. ●: Replace. △: Oil the shaft.
After replacing a part, apply lubricant to the required points.

Table 2-4-1

2.4.3 Cleaning

The tape transport system should be cleaned periodically. Be sure to clean the tape transport system upon receipt of a set for servicing, etc. To clean use a cleaning cloth moistened with ethyl alcohol.

1) When the video head is stained, the playback output level decreases and a read error will not be able to be corrected by the error correction. If this occurs, block noise appear on the monitor, the audio will not be output, and the video output will eventually be lost when the video head becomes extremely dirty. To clean the drum, while applying cleaning cloth (service part No. : VZZ0095) or high quality paper gently to the upper drum, rotate the upper drum in the normal (counterclockwise) rotation direction.
   The dirt deposited on the video head can be removed by playing a cleaning tape.

CAUTION

Do not move the cleaning paper while applying it to the video head. Otherwise, the video head may be damaged.

2) The lower drum tends to attract dirt on the leader section and the linearity cannot be guaranteed when the lower drum becomes extremely dirty. Particularly, the tape inlet and output sections gather dirt easily, causing symptoms such as dropout of the reproduced FM signal, deterioration of video quality and lack of audio output. In order to clean the leader section, rub a toothpick gently along its edge.

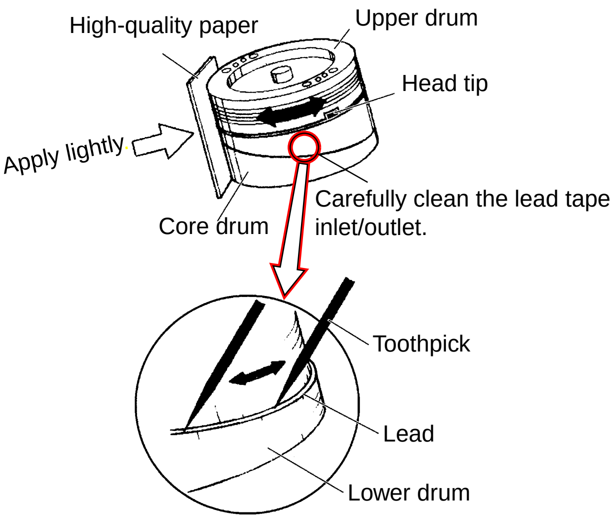


Fig. 2.4.2

3) Stain of the tape transport system leads to tape damage. When magnetic dust or dirt penetrates inside the rollers, a rotation malfunction may affect the video. Clean the tape transport parts carefully using a cleaning cloth or cotton swab moistened with ethyl alcohol.

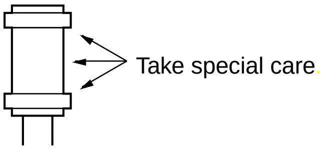


Fig. 2.4.3

2.4.4 Oiling and Greasing

Table 2-4-2 shows the oil and greases used with the set.

Classification	Name	Part No.
Oil	Cosmo Hydro HV100	VFK1778
Grease	Maltemp SH-P	VFK1748

Table 2-4-2

1) Oiling should be performed periodically. Oil the shafts by referring to the maintenance table.
2) After replacing a part, grease the required points. For the parts to be greased see the exploded diagram in section 6, “EXPLODED VIEWS & REPLACEMENT PARTS LIST”.
3) As Hanal separates over time, be sure to mix it (shake) well before use.
4) Take care not to leave grease or oil on the tape transport parts which come into contact with the tape or on the brake pads.
5) Take care not to apply too much oil or grease. The standard oiling quantity is one drop and the standard greasing quantity is the quantity with which the grease does not overflow.

2.5 PERIODICAL MAINTENANCE

Perform maintenance at the correct times in accordance with the maintenance table.
Fig. 2-5-1 shows the flow chart of periodical maintenance procedures at different operating hours.

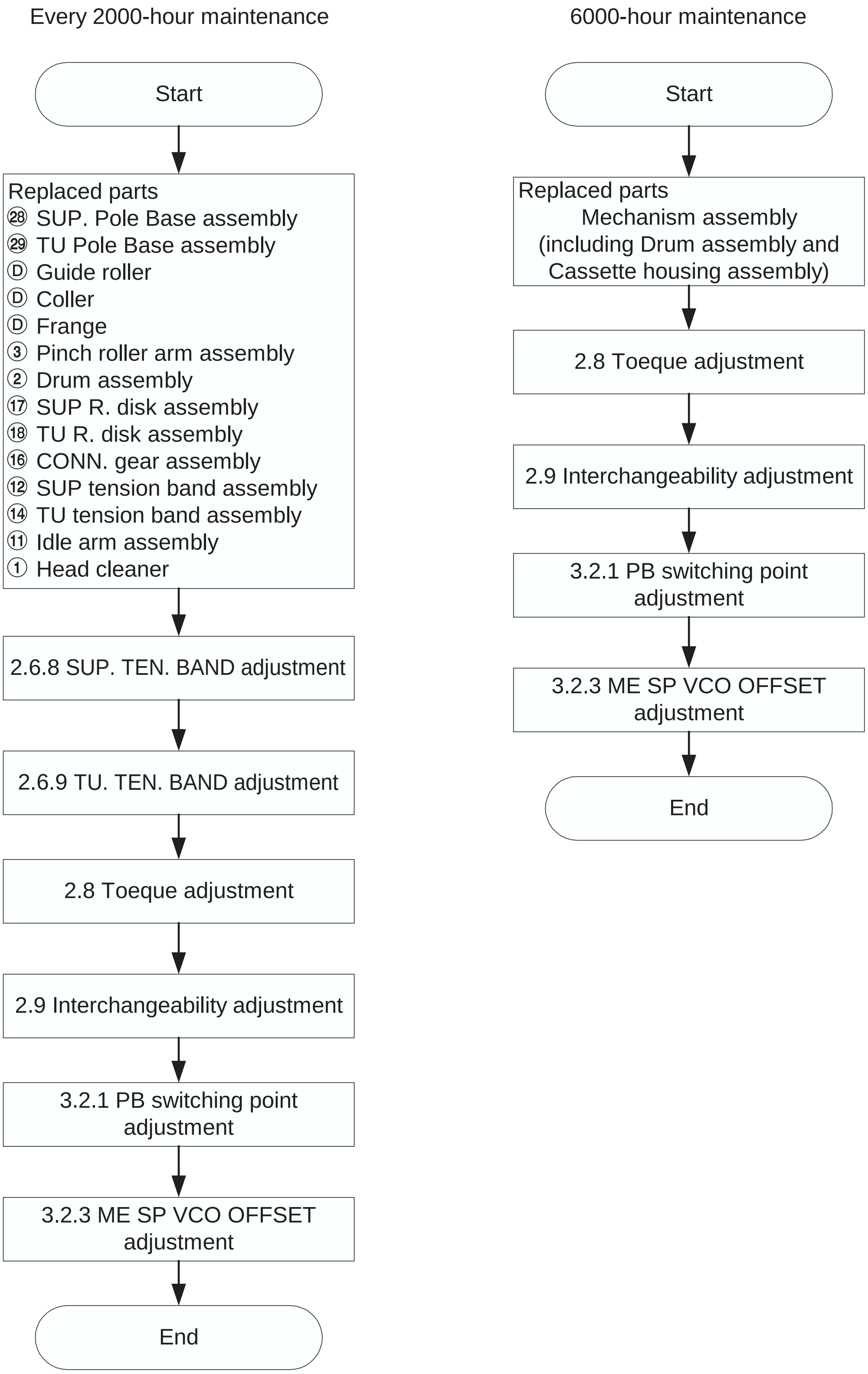
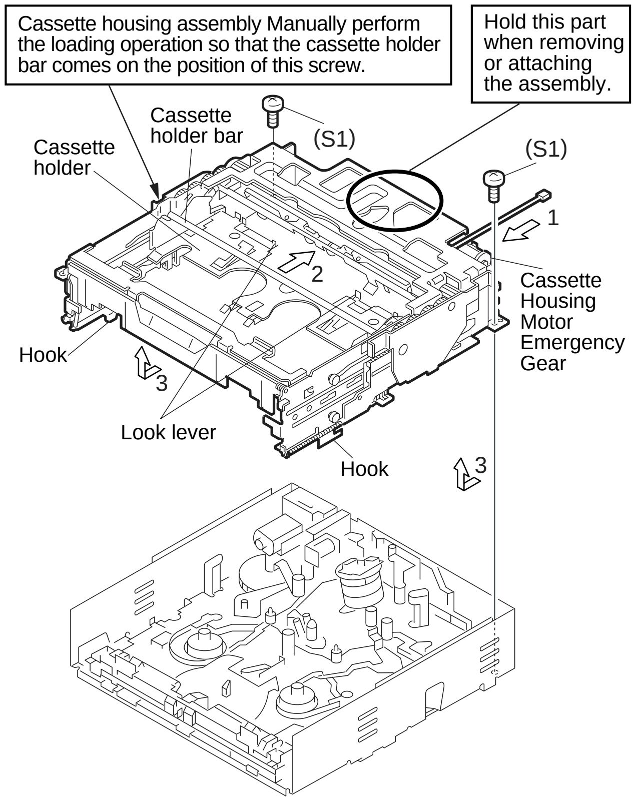
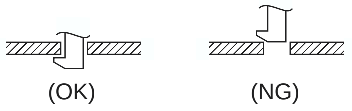
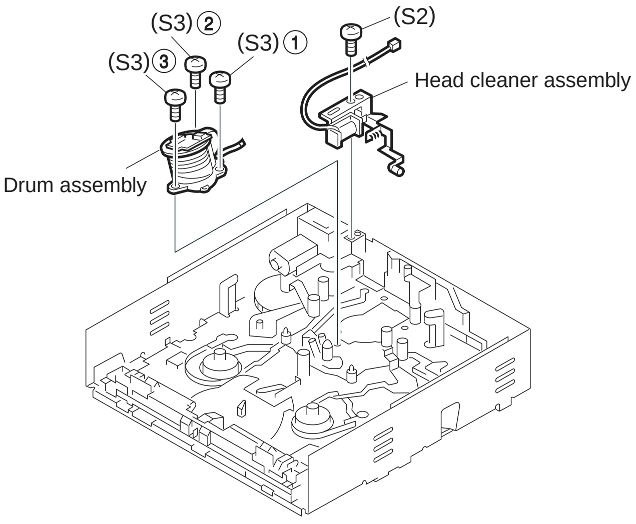

Every 2000-hour maintenance
Start
Replaced parts
㉘ SUP. Pole Base assembly
㉙ TU Pole Base assembly
Ⓓ Guide roller
Ⓓ Coller
Ⓓ Frange
③ Pinch roller arm assembly
② Drum assembly
⑰ SUP R. disk assembly
⑱ TU R. disk assembly
⑯ CONN. gear assembly
⑫ SUP tension band assembly
⑭ TU tension band assembly
⑪ Idle arm assembly
① Head cleaner
2.6.8 SUP. TEN. BAND adjustment
2.6.9 TU. TEN. BAND adjustment
2.8 Toeque adjustment
2.9 Interchangeability adjustment
3.2.1 PB switching point adjustment
3.2.3 ME SP VCO OFFSET adjustment
End
6000-hour maintenance
Start
Replaced parts
Mechanism assembly
(including Drum assembly and
Cassette housing assembly)
2.8 Toeque adjustment
2.9 Interchangeability adjustment
3.2.1 PB switching point adjustment
3.2.3 ME SP VCO OFFSET adjustment
End

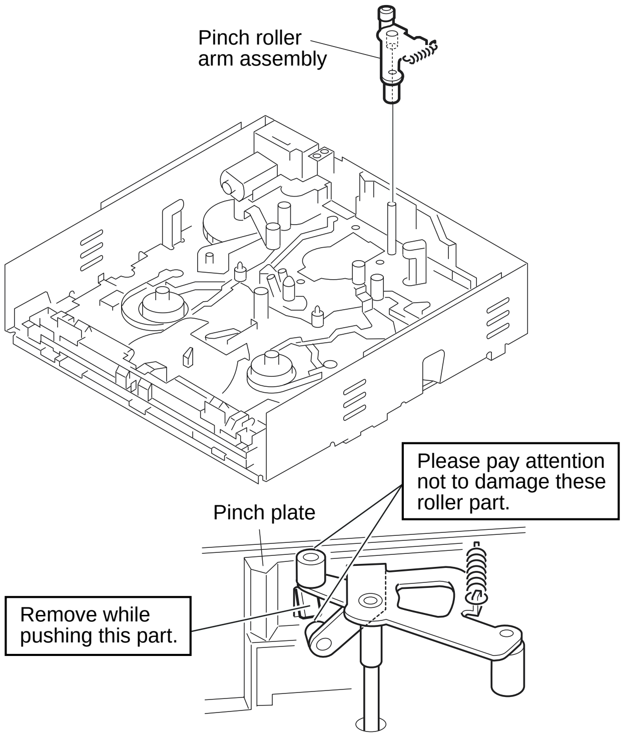
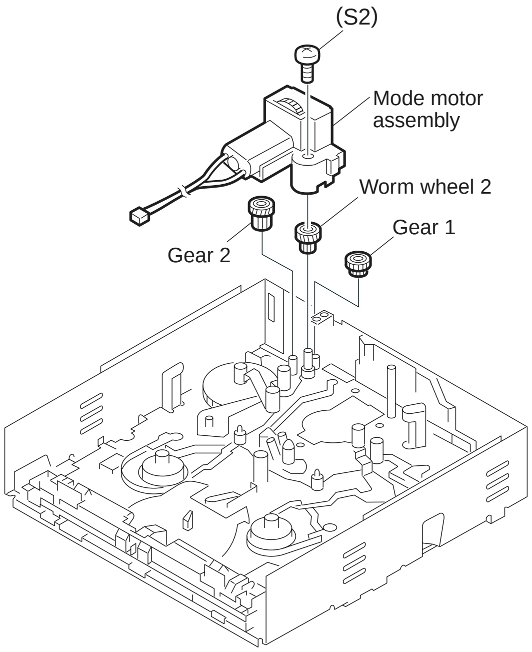
Fig. 2.5.1

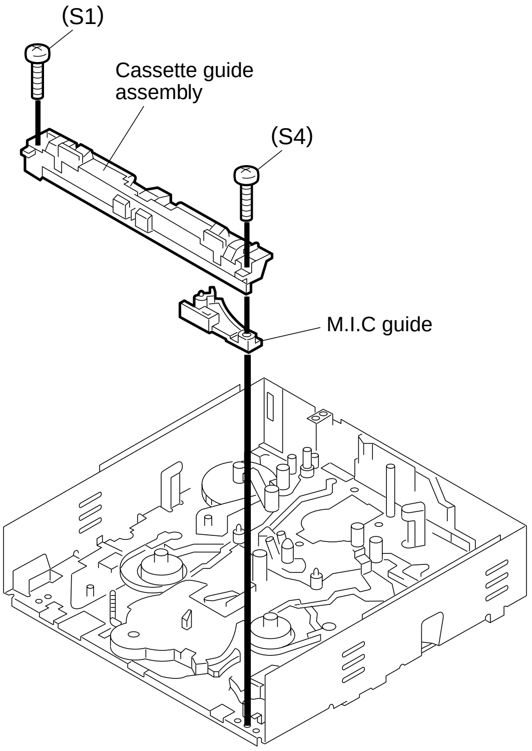
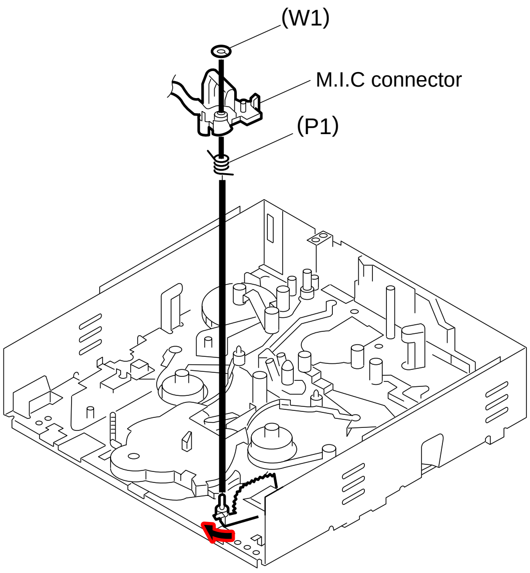
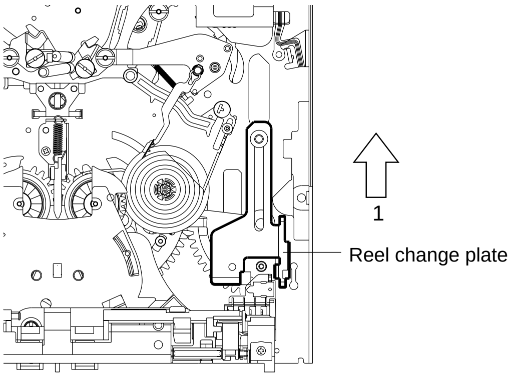
No.	Item	Ref. Illustration	Procedure

2.6 REPLACEMENT OF MAJOR PARTS

- The disassembly procedures shown in oder of disassembly. To remove the part, it is necessary to have completed all the stages before it.
- Always use a torque driver and the specified securing torque to tighten screws.
- Position the mechanism to the unloading end (No Cassette) mode before disassembly or assembly unless otherwise specified.

No.	Item	Ref. Illustration	Procedure
1	**Ⓑ Cassette housing assembly**	 Cassette housing assembly Manually perform the loading operation so that the cassette holder bar comes on the position of this screw. Hold this part when removing or attaching the assembly. Cassette holder bar (S1) (S1) Cassette holder 1 2 Cassette Housing Motor Emergency Gear Hook 3 Look lever Hook 3 **Fig. 2.6.1**	**<Disassembly>** 1) Turn the cassette housing motor emergency gear in the direction of the arrow, while pushing the lock lever in the direction of arrow 2, then move the cassette holder so that the cassette holder bar comes in the position shown in the illustration. 2) Remove two screws (S1), slide the cassette housing toward the front and remove it by releasing the lock on the Hook function as shown by arrow 3. **<Assembly>** 1) Reverse the disassembly procedure. 2) Screws (S1) should be tightened using a securing torque of 0.2 N/m (2 kgf/cm). **Note:** **Be sure to attach the cassette housing in the same position as when it was removed.**  Hook function of the Cassette hausing.
2	**① Head cleaner assembly/ ② Drum assembly**	 (S3) ② (S3) ① (S3) ③ (S2) Head cleaner assembly Drum assembly **Fig. 2.6.2**	**<Disassembly>** **Head cleaner assembly:** 1) Remove the screw (S2) and remove the head cleaner assembly. **Drum assembly:** 1) Remove the Drum FPC from the DV/CPU circuit board CN107. 2) Remove the screw (S3) and remove the drum assembly. **<Assembly>** 1) Reverse the disassembly procedure. 2) Drum section screws (S3) should be tightened in order of ① — ③ and using a securing torque of 0.04 N/m (0.4 kgf/cm).

No.	Item	Ref. Illustration	Procedure
3	**③ Pinch roller arm assembly**	 Pinch roller arm assembly Please pay attention not to damage these roller part. Pinch plate Remove while pushing this part. **Fig. 2.6.3**	**<Disassembly>** 1) While pushing the hook on the pinch plate, lift the pinch roller arm assembly upward to remove. **<Assembly>** 1) Reverse the disassembly procedure.
4	**④ Mode motor assembly/ ⑤ Worm wheel 2/ ⑥ Gear 1/ ⑦ Gear 2**	 (S2) Mode motor assembly Worm wheel 2 Gear 1 Gear 2 **Fig. 2.6.4**	**<Disassembly>** **Mode motor assembly:** 1) Remove the screw (S2) and remove the mode motor assembly. **Worm wheel 2 & gears 1 and 2:** 1) Lift the worm wheel 2 upward to remove. 2) Lift the gear 1 upward to remove. 3) Lift the gear 2 upward to remove. **<Assembly>** 1) Reverse the disassembly procedure. **Note:** **Worm wheel 2 and gears 1 and 2 do not require the mechanism phase adjustment.**

No.	Item	Ref. Illustration	Procedure
5	**Cassette guide assembly/ M.I.C guide**	 (S1) Cassette guide assembly (S4) M.I.C guide **Fig. 2.6.5**	**<Disassembly>** **Cassette guide assembly:** 1)Remove the screws (S1) (S4) and remove the cassette guide assembly. **M.I.C guide:** 1)While pushing the hook on the M.I.C guide, lift it upward to remove. **<Assembly>** 1)Reverse the disassembly procedure.
6	⑩ **M.I.C connector**	 (W1) M.I.C connector (P1) **Fig. 2.6.6 (1)**	**<Disassembly>** 1)Slide the reel change plate in the direction of arrow 1 to place the reel in the mini-cassette position. 2)Remove the slit washer (W1) and remove the M.I.C connector. 3)Remove the spring (P1). **<Assembly>** 1)Reverse the disassembly procedure.  1 Reel change plate **Fig. 2.6.6 (2)**

No.	Item	Ref. Illustration	Procedure

7

⑪ Idler arm assembly

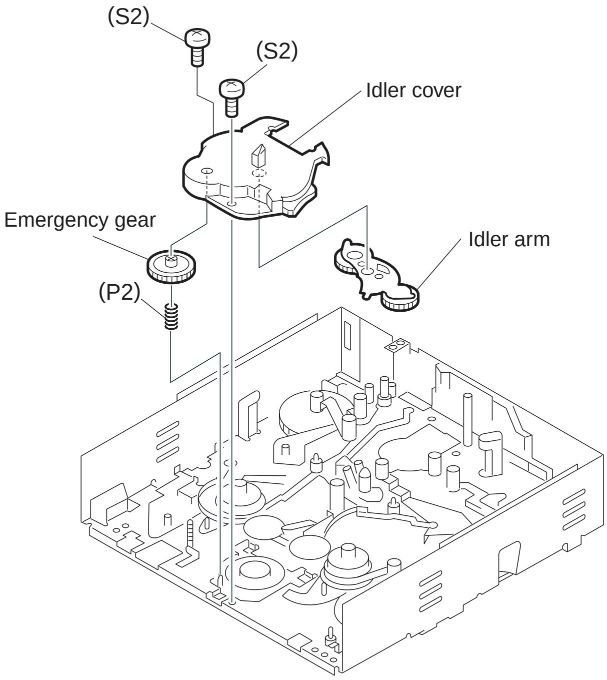


Fig. 2.6.7

<Disassembly>

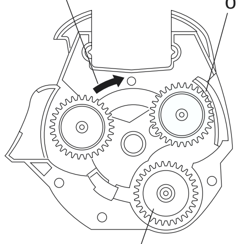
1) Remove the two screws (S2) and remove the idler cover.
2) Remove the idler arm.
3) Remove the emergency gear.
4) Remove the spring (P2).

<Assembly>

1) Attach the Idler arm and the Emergency gear into the Idler cover.

② Rotate the Idler arm to the clockwise direction. (Check the Idler arm moves smoothly.)

① Insert a point of the Idler arm

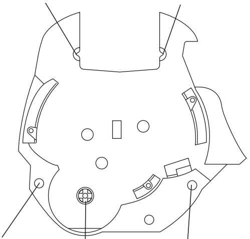


③ Install the Emergency gear into the Idler cover and push it lightly.

2) Attach the Idler arm assembly onto the Main deck.

④ Hook to the shaft of the Main deck.

① Hook to the shaft of the Main deck.



⑤ Fit to the boss of the Main deck.

② Fit to the boss of the Main deck.

③ Rotate the Emergency gear with screw drive then fit the gear of the Idler arm and the Reel Motor gear.

Caution : When install the Idler arm assembly into the main deck, if the gear of the Idler arm and Reel Motor gear does not fit, these geare may damaged.

No.	Item	Ref. Illustration	Procedure

8

⑫ Supply tension band assembly/ Supply tension arm assembly

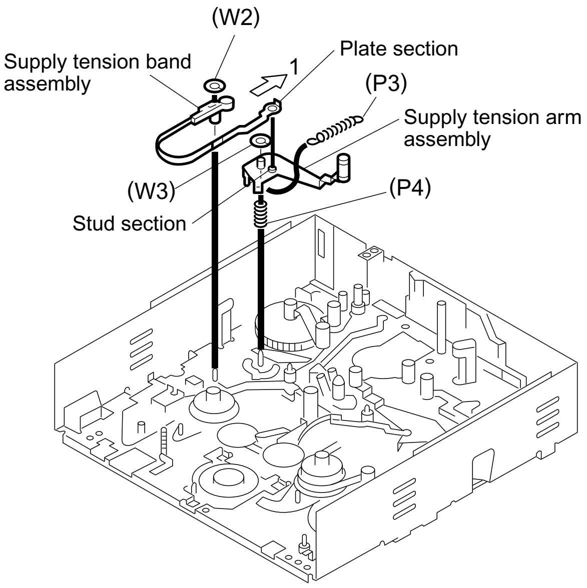

(W2)
Supply tension band assembly
1
Plate section
(P3)
Supply tension arm assembly
(W3)
(P4)
Stud section

Fig. 2.6.8 (1)

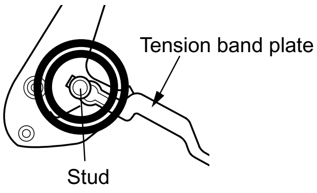

Tension band plate
Stud

Fig. 2.6.8 (2)

<Disassembly>

Supply tension band assembly:

1) Remove the slit washer (W2).
2) Slide the tension band plate in the direction of arrow 1 and remove the plate from the tension arm stud section.

Supply tension arm assembly:

1) Remove the slit washer (W3) and remove the supply tension arm assembly.
2) Unhook the spring (P3) from the tension control arm. (See Fig. 2.6.8 (3))
3) Remove the spring (P4).

<Assembly>

1) Reverse the disassembly procedure.

Notes:

- **Pinch the tension band plate and tension arm stud together and fix them. Be careful not to bend the plate during the above. (See ◎ in Fig. 2.6.8 (2))**
- **The supply tension arm assembly has undergone perpendicularity management after being assembled, so when replacement is required, it will be necessary to replace the entire mechanism assembly.**

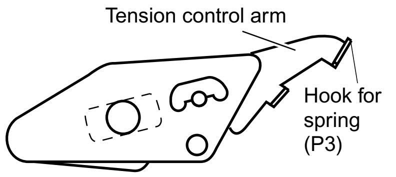

Tension control arm
Hook for spring (P3)

Fig. 2.6.8 (3)

<Supply tension band position adjustment>

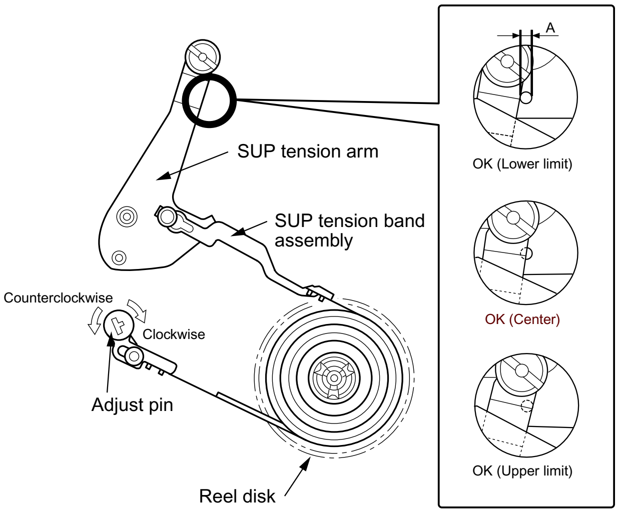

A
OK (Lower limit)
OK (Center)
OK (Upper limit)
SUP tension arm
SUP tension band assembly
Counterclockwise
Clockwise
Adjust pin
Reel disk

Fig. 2.6.8 (4)

1) With the cassette housing removed, place the reel in the mini-cassette position. (See Fig. 2.6.6 (2))
2) Manually rotate the emergency gear of mode motor counterclockwise (See section 2.2.2, “Mode transition”.) to perform loading untill the loading end position.
3) Confirm that the right edge of the tension arm is placed within the range of reference hole A on the sub-deck.
4) If the right edge is not within the above range, adjust by turning the adjust pin.

Clockwise rotation	: to lower limit
Counterclockwise rotation	: to upper limit

[Loading end position]

Perform loading until SUP REEL lock and TU REEL lock are completely separated from REEL disks.

No.	Item	Ref. Illustration	Procedure

9

⑭ Take-up tension band assembly/ Take-up tension arm assembly

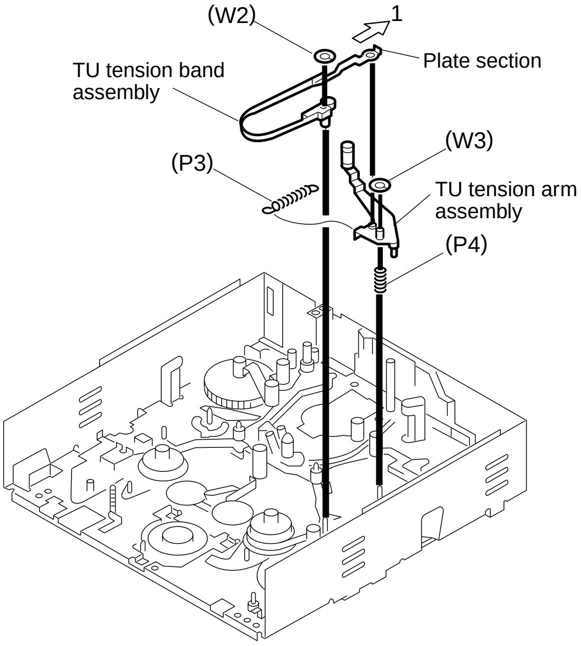

(W2)
1
Plate section
TU tension band assembly
(W3)
(P3)
TU tension arm assembly
(P4)

Fig. 2.6.9 (1)

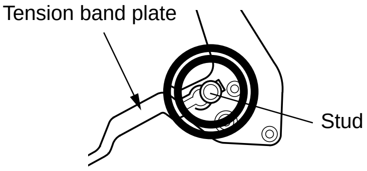

Tension band plate
Stud

Fig. 2.6.9 (2)

<Disassembly>

Take-up tension band assembly:

1) Remove the slit washer (W2).
2) Slide the plate section of tension band in the direction of arrow 1 and remove the plate from the tension arm stud.

Take-up tension arm assembly:

1) Remove the slit washer (W3) and remove the supply tension arm assembly.
2) Unhook the spring (P3) from the tension control arm. (See Fig. 2.6.9 (3))
3) Remove the spring (P4).

<Assembly>

1) Reverse the disassembly procedure.

Notes:

- **Pinch the tension band plate and tension arm stud together and fix them. Be careful not to bend the plate during the above. (See ◎ in Fig. 2.6.8 (2))**
- **The take-up tension arm assembly has undergone perpendicularity management after being assembled, so when replacement is required, it will be necessary to replace the entire mechanism assembly.**

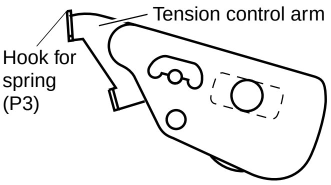

Tension control arm
Hook for spring (P3)

Fig. 2.6.9 (3)

<Take-up tension band position adjustment>

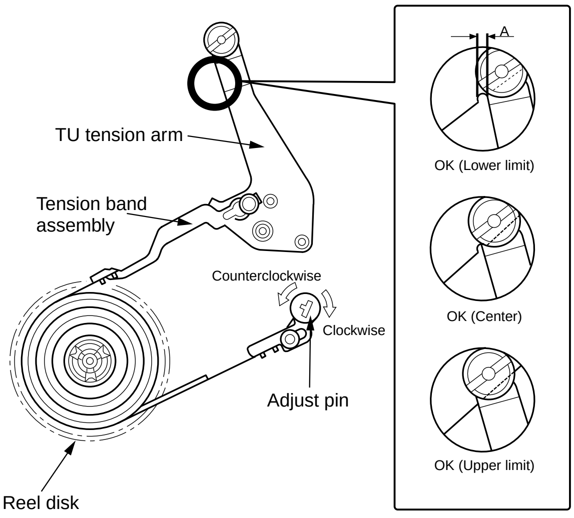

A
OK (Lower limit)
OK (Center)
OK (Upper limit)
TU tension arm
Tension band assembly
Counterclockwise
Clockwise
Adjust pin
Reel disk

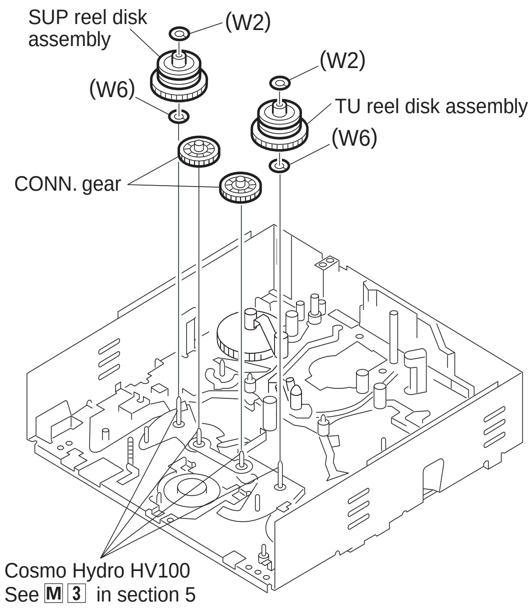
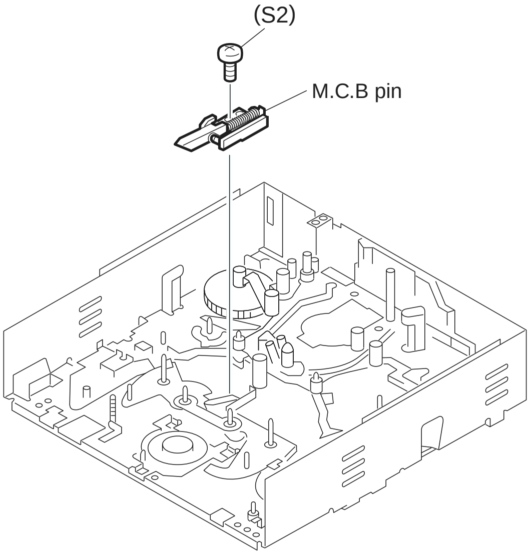
Fig. 2.6.9 (4)

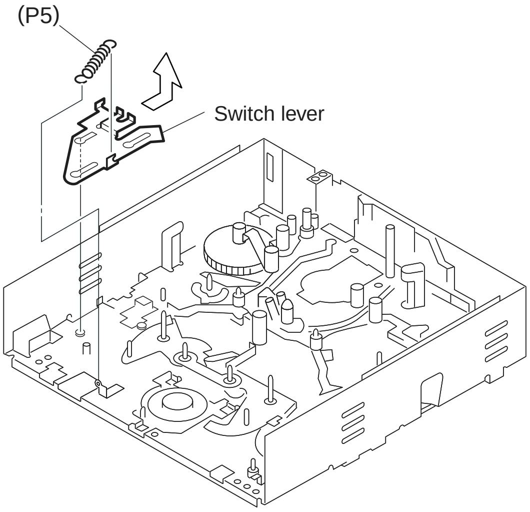
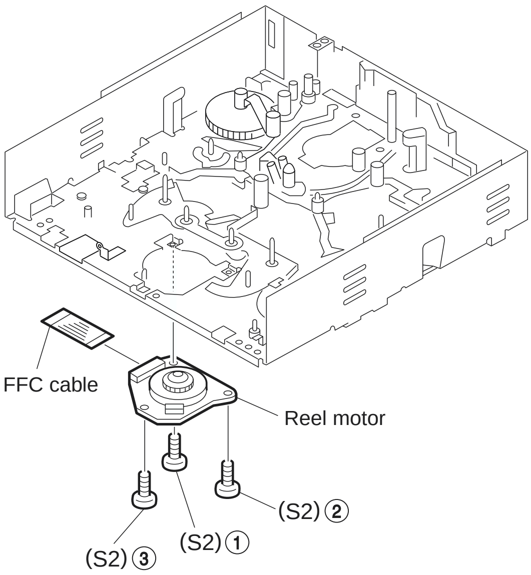
1) With the cassette housing removed, place the reel in the mini-cassette position. (See Fig. 2.6.6 (2))
2) Manually rotate the emergency gear of mode motor counterclockwise (See section 2.2.2, “Mode transition”.) to perform loading untill the loading end position.
3) Canfirm that the left edge of the tension arm is placed within the range of notch A on the sub-deck.
4) If the left edge is not within the above range, adjust by turning the adjust pin.

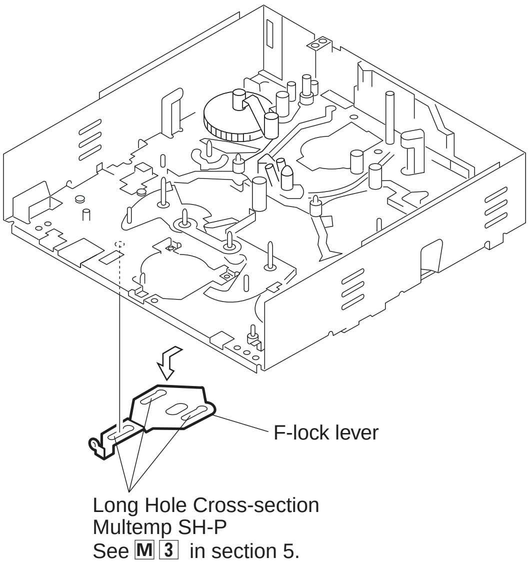
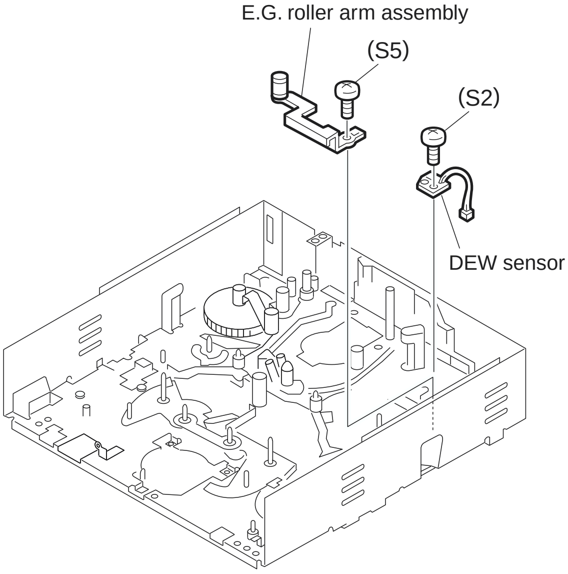
Clockwise rotation	: to upper limit
Counterclockwise rotation	: to lower limit

[Loading end position]

Perform loading until SUP REEL lock and TU REEL lock are completely separated from REEL disks.

No.	Item	Ref. Illustration	Procedure
10	**⑯ CONN gear assembly/ ⑰ SUP reel disk assembly/ ⑱ TU reel disk assembly**	 SUP reel disk assembly (W2) (W2) (W6) TU reel disk assembly (W6) CONN. gear Cosmo Hydro HV100 See M 3 in section 5 **Fig. 2.6.10**	**<Disassembly>** **CONN. gear assembly** 1) Lift the two CONN gears upward to remove. **SUP and TU reel disk assemblies:** 1) Remove the two slit washers (W2) and lift the SUP and TU reel disk assemblies separately to remove each assembly. 2) Lift the two washers (W6) to remove. **<Assembly>** 1) Reverse the disassembly procedure.
11	**M.C.B pin**	 **Fig. 2.6.11**	**<Disassembly>** 1) Remove the screw (S2) and remove the M.C.B pin. **<Assembly>** 1) Reverse the disassembly procedure.

No.	Item	Ref. Illustration	Procedure
12	**Switch lever**	 **Fig. 2.6.12**	**<Disassembly>** 1) Unhook the spring (P5). 2) Slide the switch lever in the direction of the arrow and then lift it upward to remove. **<Assembly>** 1) Reverse the disassembly procedure.
13	㉑ **Reel motor**	 **Fig. 2.6.13**	**<Disassembly>** 1) Remove the FFC from the mechanism circuit board CN124. 2) Remove the three screws (S2) and remove the reel motor. **<Assembly>** 1) Reverse the disassembly procedure. 2) Tighten the three screws (S2) in the order of ① - ③. **Note:** **Be sure to have the FFC cable installed on the reel motor side before attaching.**

No.	Item	Ref. Illustration	Procedure
14	**F-lock lever**	 F-lock lever Long Hole Cross-section Multemp SH-P See M 3 in section 5. **Fig. 2.6.14**	**<Disassembly>** 1) Slide the F-lock lever in the direction of the arrow to remove. **<Assembly>** 1) Reverse the disassembly procedure.
15	**Dew sensor/ E.G. roller arm assembly**	 E.G. roller arm assembly (S5) (S2) DEW sensor **Fig. 2.6.15**	**<Disassembly>** **Dew sensor:** 1) Remove the screw (S5) and remove the DEW sensor. **E.G. roller arm assembly:** 1) Remove the screw (S2) and remove the E.G. roller arm assembly. **<Assembly>** 1) Reverse the disassembly procedure. **Note:** **The E.G. roller arm assembly has undergone perpendicularity management after being assembled, so when replacement is required, it will be necessary to replace the entire mechanism assembly.**

16 **Sub-deck/ ㉖ Pinch plate/ ㉗ Capstan motor**

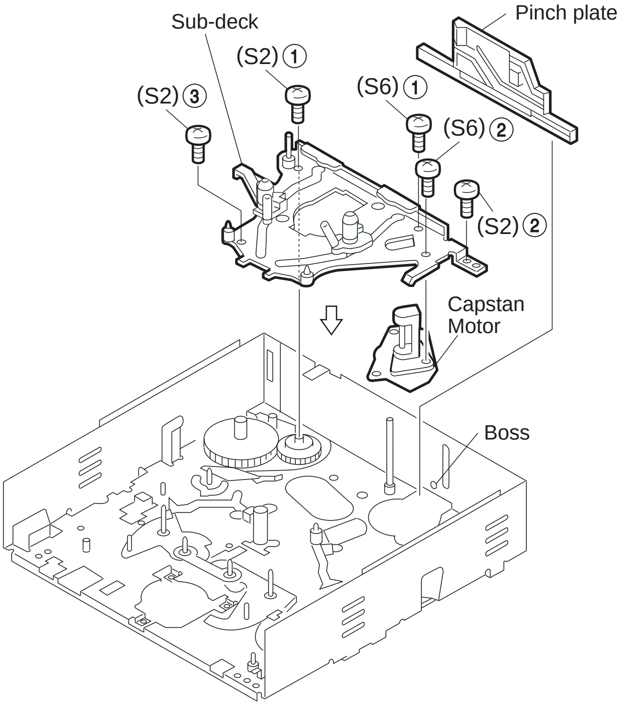

Sub-deck
Pinch plate
(S2) ①
(S2) ③
(S6) ①
(S6) ②
(S2) ②
Capstan Motor
Boss

Fig. 2.6.16 (1)

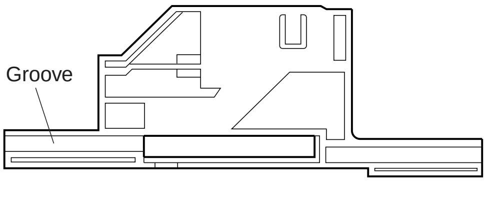


Fig. 2.6.16 (2)

<Disassembly>

Sub-deck/pin plate:

1) Remove the three screws (S2) and slide the sub-deck in the direction of arrow then remove it. The pinch plate also detaches at this time.

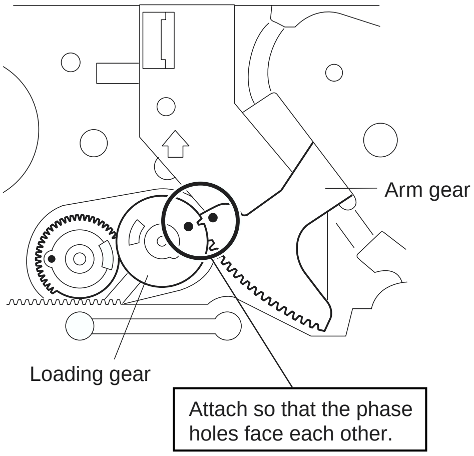
Capstan motor:

1) Remove the two screws (S6) and remove the capstan motor.

<Assembly>

Do this procedure in the unloading end position.

1) Fit the groove on the rear of the pinch plate into the boss on the main deck.
2) Reverse the disassembly procedure.
3) Attach the loading gear and arm gear so that the phase relationship between them is as shown in the figure.


Arm gear
Loading gear
Attach so that the phase holes face each other.

— Unloading End Position —

Notes:

- **Tighten the screws (S2) of the sub deck in the order of ① - ③.**
- **The sub deck assembly has undergone perpendicularity management after being assembled, so when replacement is required, it will be necessary to replace the entire mechanism assembly.**
- **Capstan motor screws (S6) should be tightened in the order of ① - ② and using a securing torque of 0.20 N·m (2 kgf·cm).**

17

㉘ Supply pole base assembly/ ㉙ Take-up pole base assembly

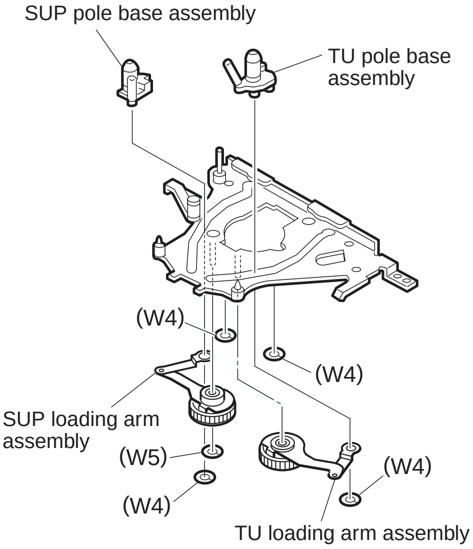

SUP pole base assembly
TU pole base assembly
(W4)
(W4)
SUP loading arm assembly
(W5)
(W4)
(W4)
TU loading arm assembly

Fig. 2.6.17

<Disassembly>

Do this procedure in the loading end position.

Supply pole base assembly:

1) Remove the two slit washers (W4) and remove the supply pole base assembly.

Take-up pole base assembly:

1) Remove the two slit washers (W4) and remove the take-up pole base assembly.

<Assembly>

1) Reverse the disassembly procedure.

18

Supply loading arm assembly/ Take-up loading arm assembly

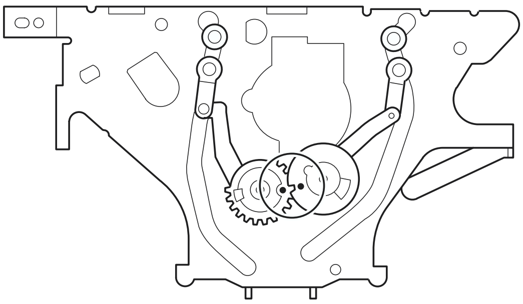


Fig. 2.6.18 Sub Deck Bottom Side

<Disassembly>

Do this procedure in the loading end position.

Take-up loading arm assembly:

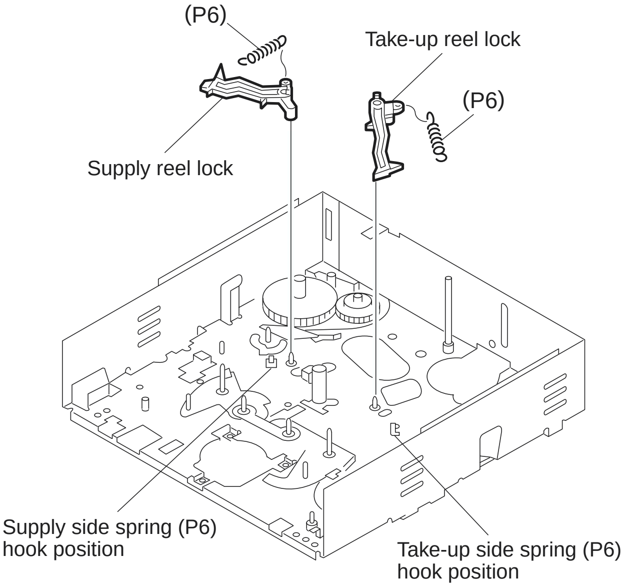
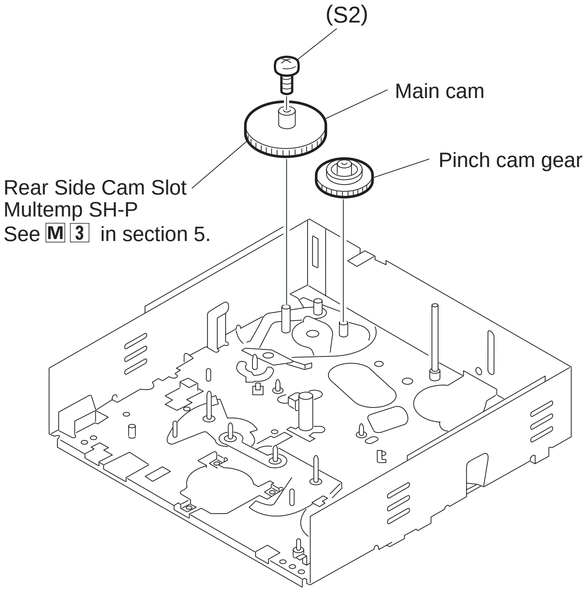
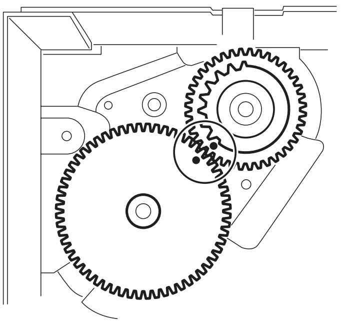
1) Remove the slit washer (W5) and remove the take-up loading arm assembly.

Supply loading arm assembly:

1) After removing the take-up loading arm assembly, remove the supply loading arm assembly.

<Assembly>

1) Reverse the disassembly procedure.
2) Attach so that the gear holes on the assemblies face each other.

No.	Item	Ref. Illustration	Procedure
19	**Supply reel lock/ Take-up reel lock**	 (P6) Take-up reel lock (P6) Supply reel lock Supply side spring (P6) hook position Take-up side spring (P6) hook position **Fig. 2.6.19**	**<Disassembly>** **Supply reel lock:** 1) Unhook the spring (P6) and lift the supply reel lock upward to remove. **Take-up reel lock:** 1) Unhook the spring (P6) and lift the take-up reel lock upward to remove. **<Assembly>** 1) Reverse the disassembly procedure.
20	**㉞ Pinch cam gear/ ㉟ Main cam**	 (S2) Main cam Pinch cam gear Rear Side Cam Slot Multemp SH-P See M 3 in section 5. **Fig. 2.6.20 (1)**	**<Disassembly>** **Pinch cam gear:** 1) Lift the pinch cam gear upward to remove. **Main cam:** 1) Remove the screw (S2) and remove the main cam. **<Assembly>** 1) Reverse the disassembly procedure. 2) Attach the main cam and pinch cam gear so that their phase relationship is as shown in the figure.  **Fig. 2.6.20 (2)**

No.	Item	Ref. Illustration	Procedure

21 **㊱ Arm gear/ ㊲ Control arm**

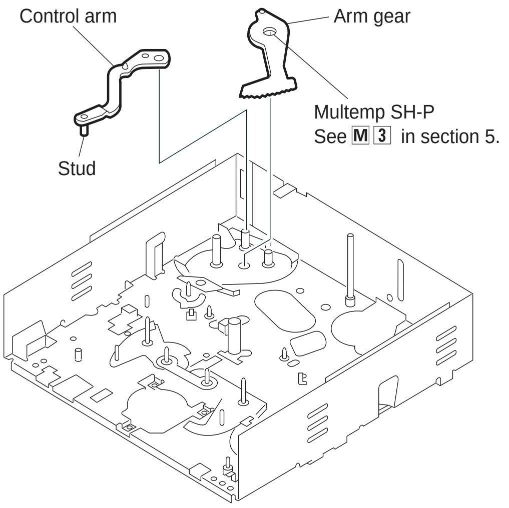

Control arm
Arm gear
Multemp SH-P
See M 3 in section 5.
Stud

Fig. 2.6.21 (1)

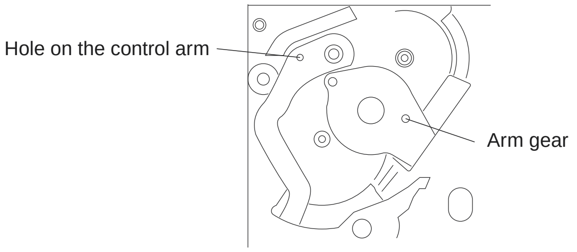

Hole on the control arm
Arm gear

Fig. 2.6.21 (3)

<Disassembly>

Arm gear:

1) Remove the main cam as described in No. 20 and remove the arm gear.

Control arm:

1) Place the main deck upside down.
2) Bend the control plate slightly, disengage the control arm's stud from the groove on the plate and remove the control arm. (Refer to Fig. 2.6.21(2))

<Assembly>

1) Reverse the disassembly procedure.
2) Align the hole on the control arm withy that on the main deck.
3) Align the hole on the arm gear with that on the main deck.

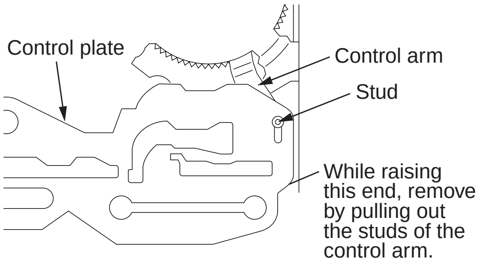

Control plate
Control arm
Stud
While raising this end, remove by pulling out the studs of the control arm.

Fig. 2.6.21 (2)

22 **㊳ Control plate/ Mode sensor gear**

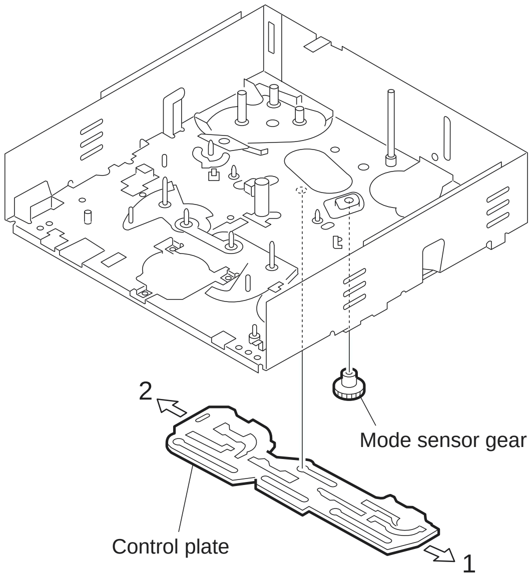

2
Mode sensor gear
Control plate
1

Fig. 2.6.22 (1)

<Disassembly>

Control plate:

1) Place the main deck upside down.
2) Slide the control plate in the direction of the arrow 1 to remove.

Mode sensor gear:

1) Remove the mode sensor gear as if pulling it out.

<Assembly>

1) Attach the control plate.
2) Slide the control plate in the direction of the arrow 2.
3) Attach the mode sensor gear so that the hole on it is aligned with that on the control plate.

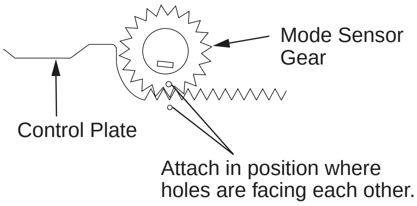
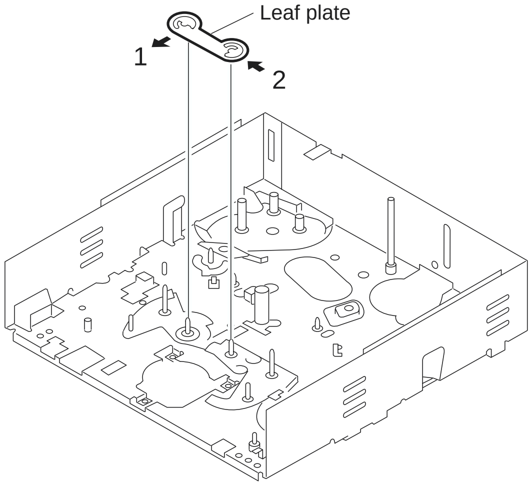
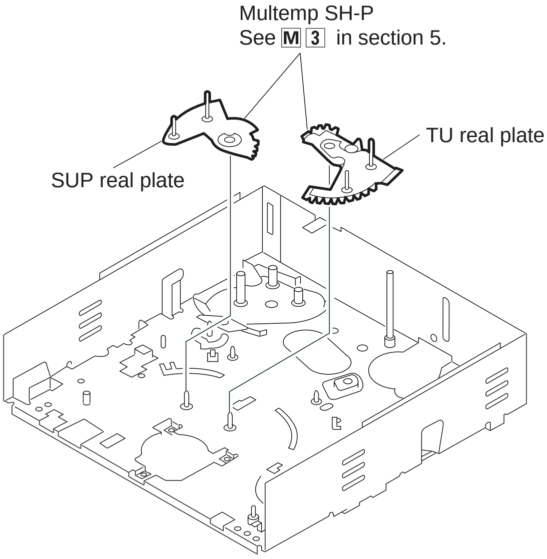
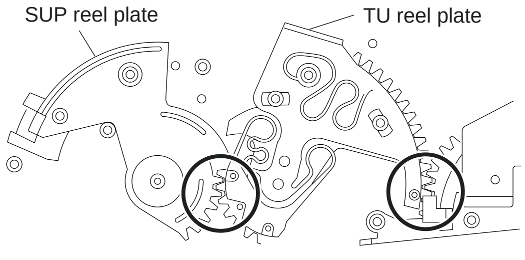
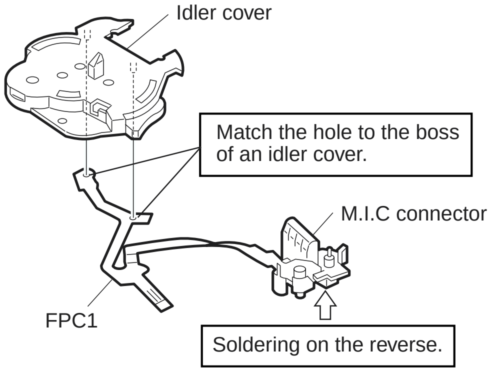
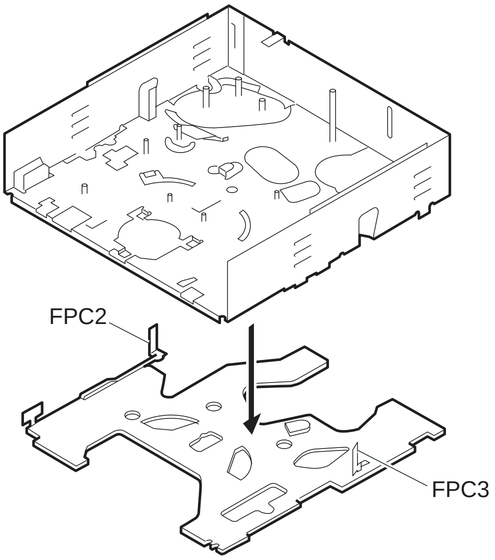
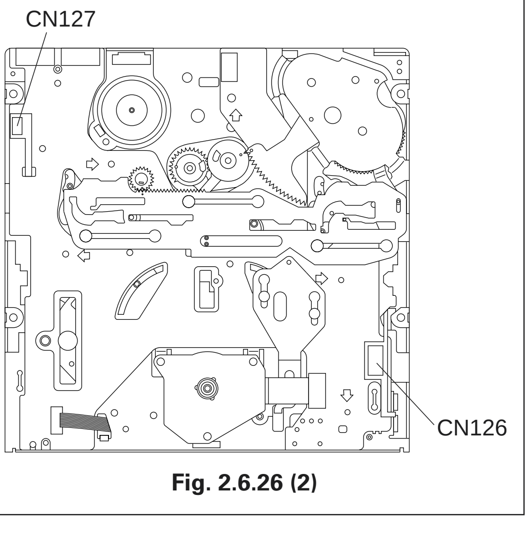

Mode Sensor Gear
Control Plate
Attach in position where holes are facing each other.

Fig. 2.6.22 (2)

No.	Item	Ref. Illustration	Procedure
23	**Leaf plate**	 **Fig. 2.6.23**	**<Disassembly>** 1) Push the supply side of the leaf plate in the direction of arrow 1 to release the lock. 2) Push the take-up side of the leaf plate in the direction of arrow 2 to release the lock. Now the leaf plate can be removed. **<Assembly>** 1) Reverse the disassembly procedure. **Note:** **Be careful not to deform the leaf plate during removing or attaching.**
24	㊶ **Supply reel plate/** ㊷ **Tale-up reel plate**	 Multemp SH-P See M 3 in section 5. TU real plate SUP real plate **Fig. 2.6.24 (1)**	**<Disassembly>** **Supply reel plate:** 1) Slide the reel change plate toward the mini-cassette position. (Stop sliding before it is locked completely.) (See Fig. 2.6.6 (2)) 2) Lift the right side of the supply reel plate (gear side) and turn it slightly to remove. **Take-up reel plate:** 1) Lift the left side of the take-up reel plate and turn it slightly to remove. **<Assembly>** 1) Reverse the disassembly procedure. **Notes:** **Take-up reel plate attaching position** Attach the take-up reel plate so that the gear cogs on its inner right side are meshed with those on the left end of the reel plate drive gear. **Supply reel plate attaching position** Attach the supply reel plate so that the gear cogs on its inner right side are meshed with those on the left end of the supply reel plate.  **Fig. 2.6.24 (2)**

No.	Item	Ref. Illustration	Procedure
25	**㊸ FPC1 assembly**	 Idler cover Match the hole to the boss of an idler cover. M.I.C connector FPC1 Soldering on the reverse. **Fig. 2.6.25**	**<Disassembly>** 1) Remove the M.I.C connector and idler arm assembly as described in section 2.6.7. 2) Remove solder from the M.I.C connector (6 positions). 3) Remove the FPC1 assembly by performing the same operation as peeling adhesive tape off for the idler cover section. **<Assembly>** 1) Reverse the disassembly procedure. **Note:** **Do not reuse the removed FPC1 assembly.**
26	**FPC2 assembly/ FPC3 assembly**	 **Fig. 2.6.26 (1)**	**<Disassembly>** **FPC2 assembly:** 1) Remove solder from CN126 on the mechanism board. 2) Remove the FPC2 assembly as if peeling adhesive tape off. **FPC3 assembly:** 1) Remove solder from CN127 on the mechanism board. 2) Remove the FPC3 assembly as if peeling adhesive tape off. **<Assembly>** 1) Reverse the disassembly procedure. **Note:** **Do not reuse the removed FPC1 and FPC2 assemblies.**  CN127 CN126 **Fig. 2.6.26 (2)**

No.	Item	Ref. Illustration	Procedure

27 **Cassette LED/ LED holder/ MECHA board assembly**

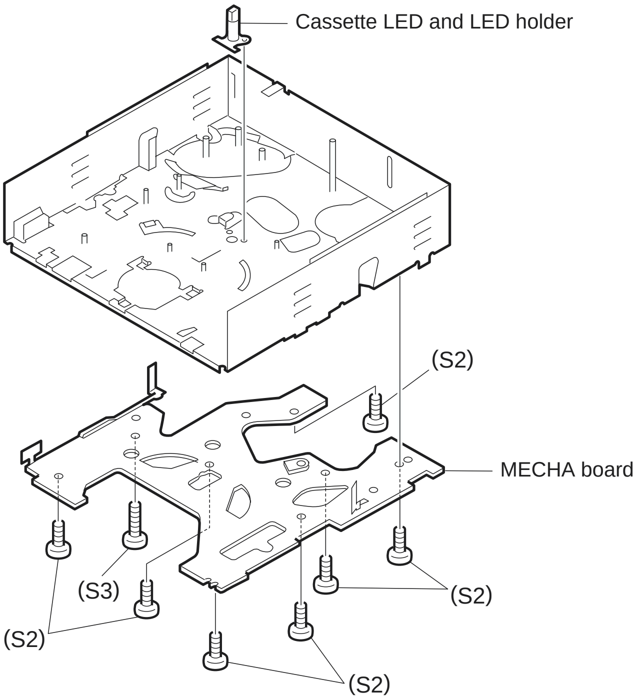

Cassette LED and LED holder
(S2)
MECHA board
(S3)
(S2)
(S2)
(S2)

Fig. 2.6.27 (1)

<Disassembly>
Cassette LED:

1) Remove solder from LD1 on the mechanism board and remove the cassette LED.

LED holder:

1) While pushing the three claws locking the LED holder, remove it.

MECHA board assembly:

1) Remove the seven screws (S2) and a screw (S3), then remove the MECHA board assembly.

<Assembly>

1) Reverse the disassembly procedure.
2) Tighten the eight screws of the mechanism board assembly in the order shown in the illustration.

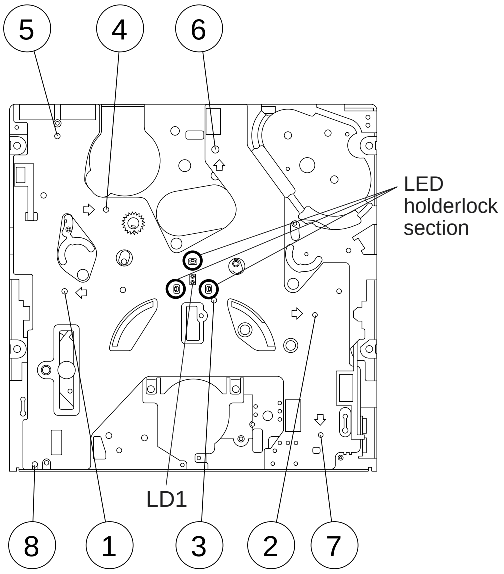
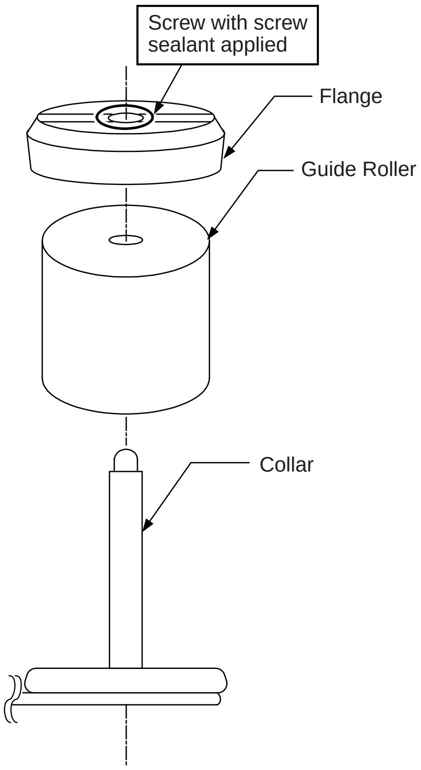

5
4
6
LED holderlock section
LD1
8
1
3
2
7

Fig. 2.6.27 (2) — Mechanism unit bottom side —

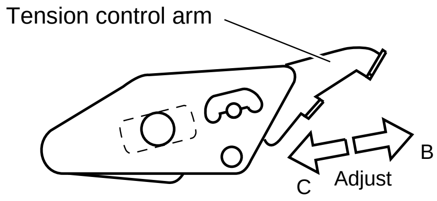
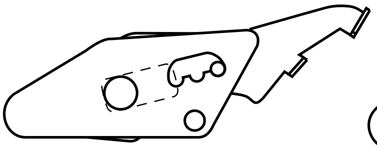
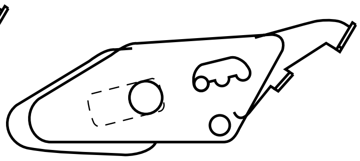
Note:
Makce sure the three claws locking of the LCD holder does not loosen.

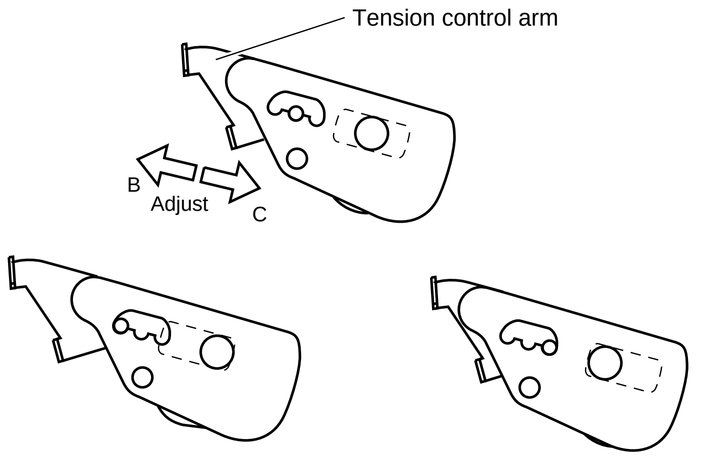
2.7 GUIDE ROLLER REPLACEMENT METHOD

Since the SUP/TU tension arm assembly, sub deck assembly (ENT, G, roller section), and E.G.R. arm, have all undergone perpendicularity management after being assembled respectively, assembly replacement of these is not possible.
For maintenance, only the guide roller can be replaced.

1	**Ⓓ Guide roller replacement procedure for SUP/TU tension arm assembly and ENT.G. roller/E.G. roller arm assembly**  Screw with screw sealant applied Flange Guide Roller Collar **Fig. 2.7.1**	**<Removing>** 1) Remove the flange on the upper part of the guide roller as you would remove a screw. 2) Pull the guide roller upward and remove it. 3) Pull the collar upward and remove it. **<Installing>** 1) Proceed in the reverse order as when removing. 2) When fixing the flange in place, first tighten by hand until it stops, then tighten further using a securing torque of 0.04 N/m (0.4 kgf/cm). 3) After fixing in place, apply screw sealant to the screw on the upper end of the flange. **Note:** **When applying additional tightening force, avoid excessive force that may cause distortion of the arm section.**

2.8 TORQUE ADJUSTMENT

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
1	Supply back torque adjustment   To increase the torque  To decrease the torque	Cassette torque meter VFK1843	Play	◎ Supply side reading of cassette torque meter ☆ $6.5^{+1.0}_{-0.5} \times 10^{-4}$ N·m	1) Insert the torque cassette meter VFK1843 and press the [PLAY] button. 2) Confirm that the SUP back torque value is within the specified range. (If the reading varies, read the center value.) 3) If the reading is out of specification, eject the cassette and adjust by moving the tension control arm. * To increase the torque → Move in direction B * To decrease the torque → Move in direction C. 4) Perform steps 1) and 2) above again and confirm that the SUP back torque value is within the specified range. If it is out of specification, check the <Supply tension band position adjustment> in 2.6.8 (4).
2	Take-up wind torque adjustment	Cassette torque meter VFK1843	PLAY, Adjustment menu No. 119	◎ Take-up side reading of cassette torque meter ☆ $11.5^{+1.0}_{-0.5} \times 10^{-4}$ N·m	1) Select adjustment menu [119. FWD TORQUE]. **(For the adjustment menu, see 3.1.5, "Adjustment menu".)** 2) Insert the torque cassette meter VFK1843 and press the [PLAY] button. 3) Adjust the TU wind torque so that it is within the specified range. * Press SET (PAUSE) to enter the adjustment mode. * To increase the torque → Press ▲ (PLAY). * To decrease the torque → Press ▼ (STOP). 4) After adjustment, press SET (PAUSE) to store the adjustment data.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
3	Take-up back torque adjustment  To increase the back torque To decrease the back torque	Cassette torque meter VFK1844	REV x 1	◎ Take-up side reading of cassette torque meter ☆ $6.5^{+1.0}_{-0.5} \times 10^{-4}$ N·m	1) Insert the torque cassette meter VFK1844 and enter REV x1 mode. 2) Confirm that the TU back torque value is within the specified range. (If the reading varies, read the center value.) 3) If the reading is out of specification, eject the cassette and adjust by moving the tension control arm. * To increase the torque → Move in direction B * To decrease the torque → Move in direction C. 4) Perform steps 1) and 2) above again and confirm that the TU back torque value is within the specified range. If it is out of specification, check the <Take-up tension band position adjustment> in 2.6.9 (4).
4	SUP wind torque CHECK	Cassette torque meter VFK1844	REV x 1	◎ Supply side reading of cassette torque meter ☆ $11.5^{+1.5}_{-1.0} \times 10^{-4}$ N·m	1) Insert the torque cassette meter VFK1844 and enter REV x1 mode. 2) Confirm that the SUP wind torque is within the specified range. If it is out of specification, check the assembly condition of the reel drive parts.

2.9 INTERCHANGEABILITY ADJUSTMENT

2.9.1 Interchangeabilty adjustment flow chart

Fig. 2-9-1 shows the flow chart of compatibility adjustment.

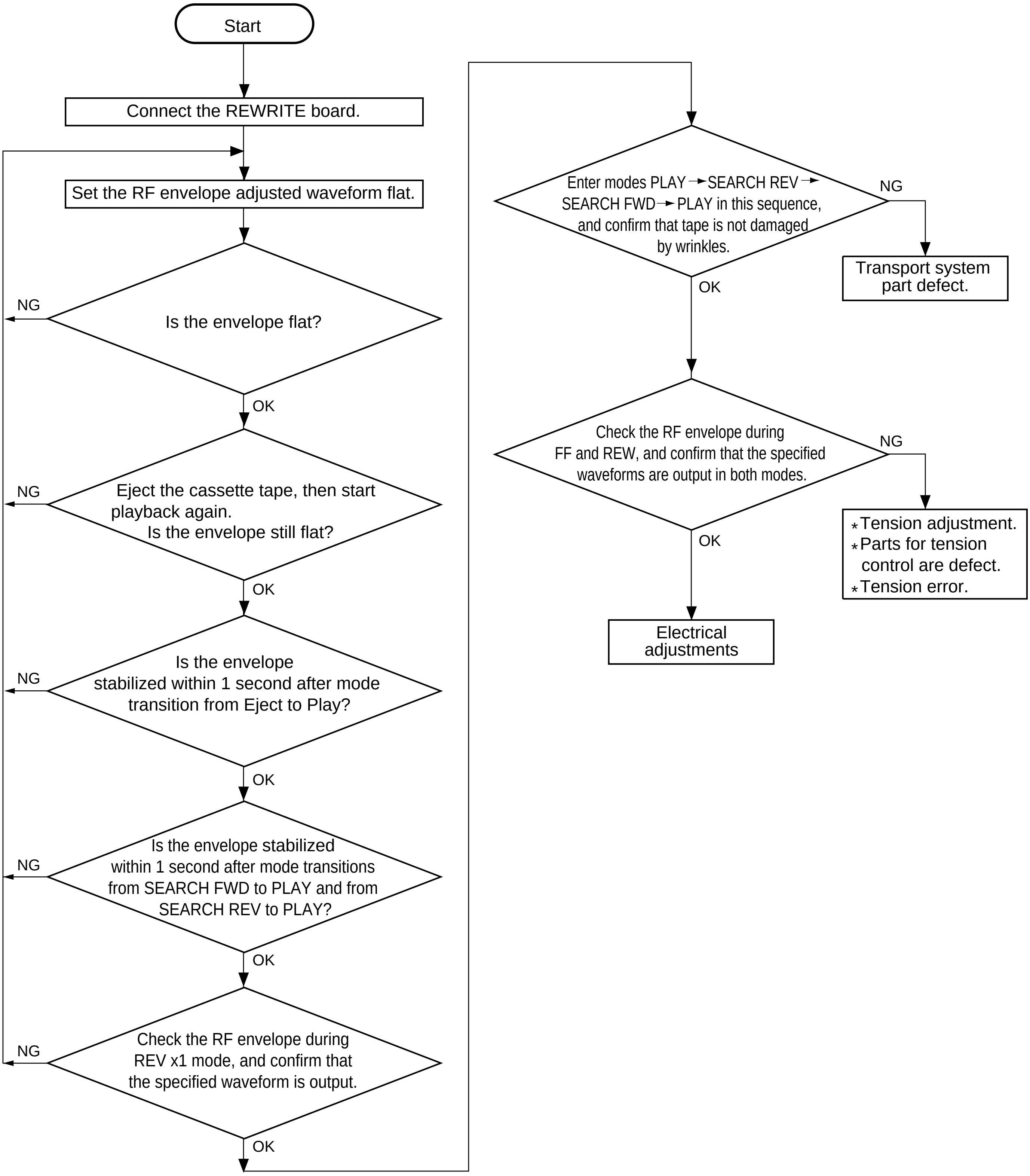
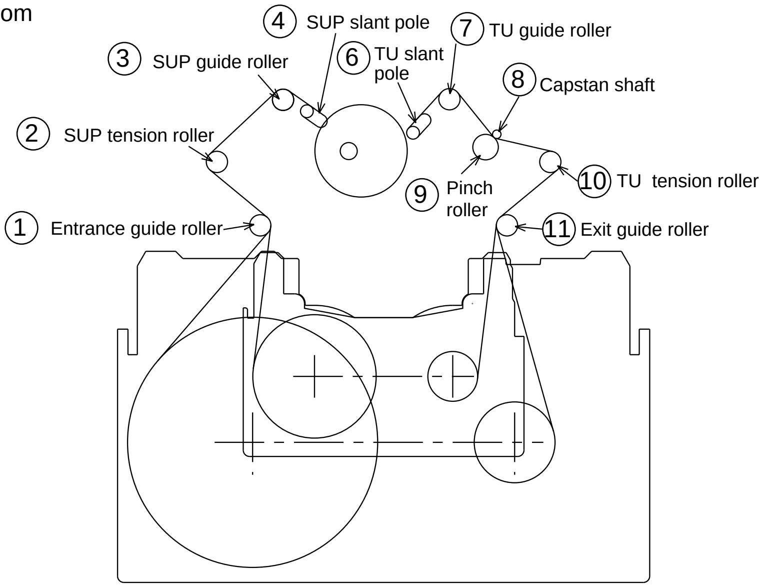

Start
Connect the REWRITE board.
Set the RF envelope adjusted waveform flat.
Is the envelope flat?
NG
OK
Eject the cassette tape, then start playback again. Is the envelope still flat?
NG
OK
Is the envelope stabilized within 1 second after mode transition from Eject to Play?
NG
OK
Is the envelope stabilized within 1 second after mode transitions from SEARCH FWD to PLAY and from SEARCH REV to PLAY?
NG
OK
Check the RF envelope during REV x1 mode, and confirm that the specified waveform is output.
NG
OK
Enter modes PLAY → SEARCH REV → SEARCH FWD → PLAY in this sequence, and confirm that tape is not damaged by wrinkles.
NG
OK
Transport system part defect.
Check the RF envelope during FF and REW, and confirm that the specified waveforms are output in both modes.
NG
OK
*Tension adjustment.
*Parts for tension control are defect.
*Tension error.
Electrical adjustments

Fig. 2-9-1

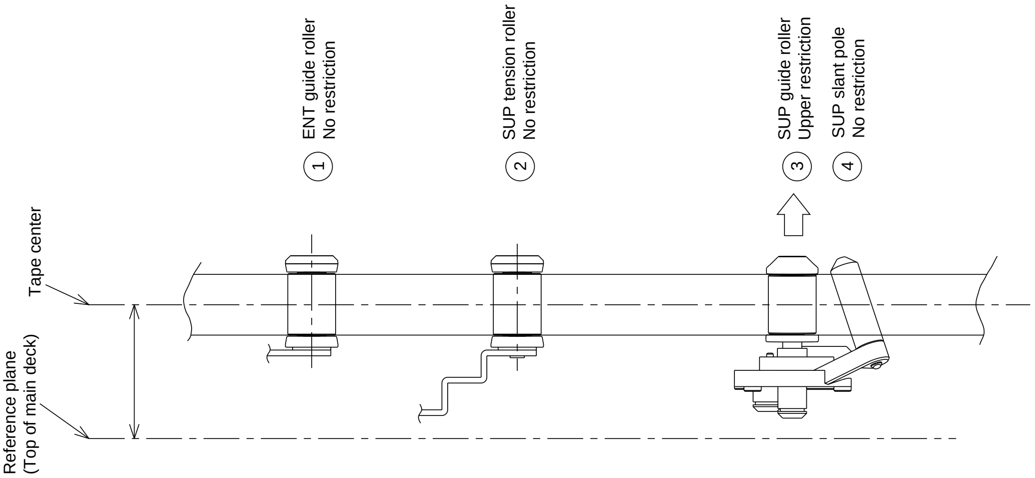
2.9.2 Tape Transport Restriction

The unit uses only the SUP guide roller and TU guide roller to restrict the tape transport. The tape is free (no restriction) from other parts.



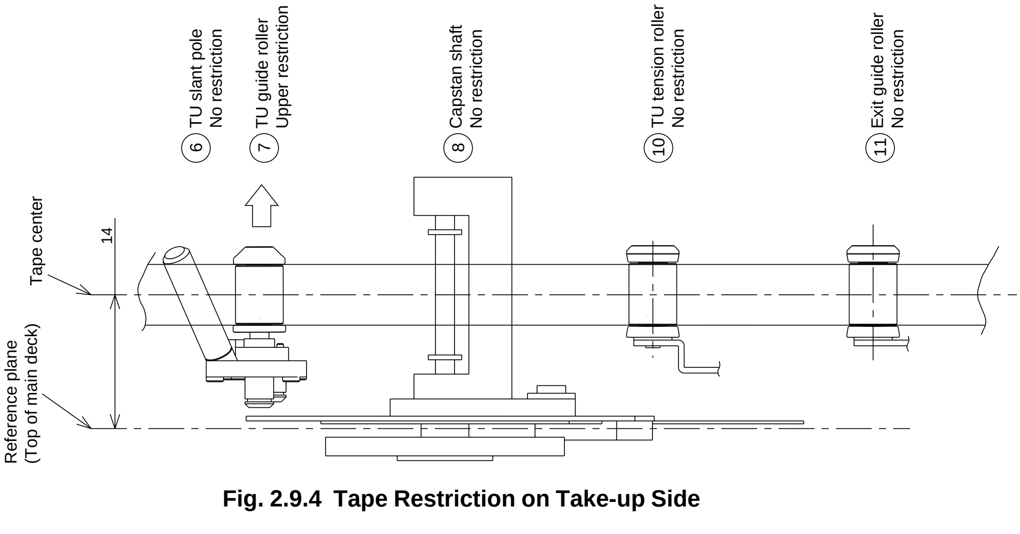
④ SUP slant pole
⑦ TU guide roller
③ SUP guide roller
⑥ TU slant pole
⑧ Capstan shaft
② SUP tension roller
⑩ TU tension roller
⑨ Pinch roller
① Entrance guide roller
⑪ Exit guide roller

Fig. 2.9.2



① ENT guide roller
No restriction
② SUP tension roller
No restriction
③ SUP guide roller
Upper restriction
④ SUP slant pole
No restriction
Tape center
Reference plane
(Top of main deck)

Fig. 2.9.3 Tape Restriction on Supply Side



⑥ TU slant pole
No restriction
⑦ TU guide roller
Upper restriction
⑧ Capstan shaft
No restriction
⑩ TU tension roller
No restriction
⑪ Exit guide roller
No restriction
14
Tape center
Reference plane
(Top of main deck)

Fig. 2.9.4 Tape Restriction on Take-up Side

2.9.3 Interchangeability adjustment

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (↑) Adjustment level (☆)	Adjustment procedure
1	Preparation				(1) Connect a REWRITE board to the CN4004 on the MAIN board. Refer to preparation of "3.2 DVC UNITS ADJUSTMENTS" for more details. **Note:** **Be sure to clean the tape transport parts and play a cleaning tape before proceeding to the compatibility adjustment.**
2	RF envelope adjustment	• Oscilloscope, alignment tape VFK1842 Color bar portion	Play	◎ TP9 ENV OUT [REWRITE board] ◎ TP5 HID [REWRITE board] ↑ Supply guide roller ↑ Take-up guide roller ☆ Make the waveforms flat. The drop level should be less than 3 dB at both SUP and TU sides. ☆ Flatness and variation should be less than 2 dB.	(1) Play alignment tape color bar portion. (2) Observe the measuring points and adjust the supply guide roller and take-up guide roller so that the RF envelope is flat. (3) Set the mode to EJECT, then set to the PLAY mode and confirm that the RF envelope is flat.

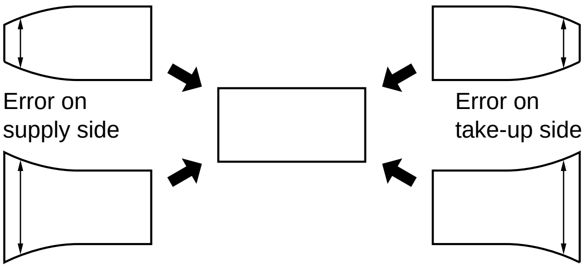
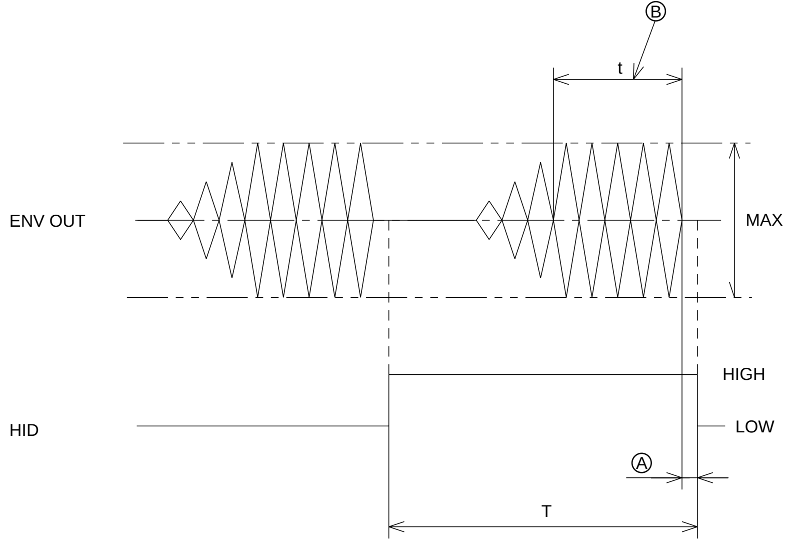
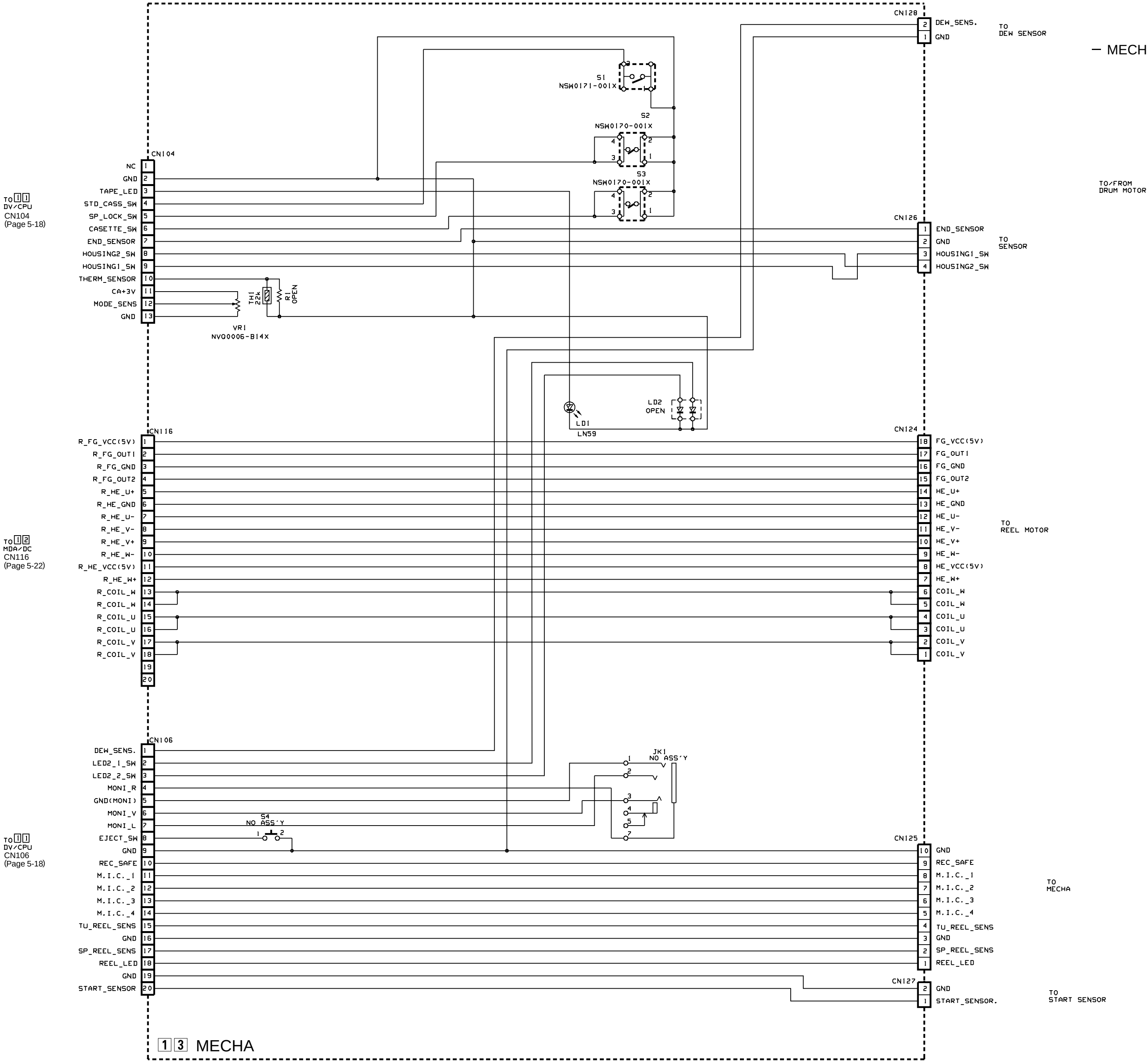


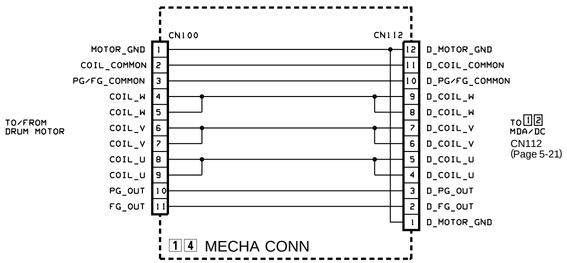
Fig. 2.9.5

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (↑) Adjustment level (☆)	Adjustment procedure
3	Waveform rise check	• Oscilloscope, alignment tape VFK1842 Color bar portion	Eject → Play Search FWD → Play Search REV → Play	◎ TP9 ENV OUT [REWRITE board] ◎ TP5 HID [REWRITE board] ☆ The envelope waveform should be stabilized within 1 sec.	(1) Switch the mode from Eject → Play and confirm that the envelope is stabilized in less than 1 sec. (2) Switch the mode from Search FWD → Play and from Search REV → Play, and confirm that the envelope is stabilized in less than 1 sec. in both cases. (3) If the envelope does not stabilized in the specified period, fine-adjust the supply/take-up guide rollers as far as the envelope waveform specification is satisfied, then restart checking from the above procedure (1) again.
4	Damage check	• Self-recorded/ played tape 60 ME 270ME	Play ↓ Search REV ↓ Search FWD ↓ Play	◎ TP9 ENV OUT [REWRITE board] ◎ TP5 HID [REWRITE board] ☆ The tape should not be damaged by wrinkle.	(1) Transport the self-recorded/played Mini cassette tape from the beginning by changing modes in order of Play → Search REV → Search FWD → Play, and confirm that wrinkles due to strong restriction by the guide rollers and guide pole are not produced on tape. (2) Perform the same check at the section near the end of tape. (3) Confirm that no tape damage occurs when a tape is being loaded, unloaded or ejected. (4) Perform the same procedures (1) — (3) with a standard cassette.
5	Envelope check during FF/REW	• Oscilloscope, alignment tape VFK1842 Color bar portion	FF REW	◎ TP9 ENV OUT [REWRITE board] ◎ TP5 HID [REWRITE board] ☆ A < 55µsec. ☆ B ≧ T/3  **Fig. 2.9.6**	**This checking should be done after completing 3-2-1. PB switching point adjustment.** (1) Insert the alignment tape and enter Stop mode. (2) Enter FF mode. (3) Confirm that the envelope output is present at 55 µs before the HID switching timing. (4) Check the take-up side of the envelope to see that the MAX output duration is more than 1/3 the HID duration. (5) Enter REW mode and check the same items as (3) and (4) above. (6) If the envelope is out of specification, check the tension band and main brake assembly and replace if needed. Confirm the playback switching point.

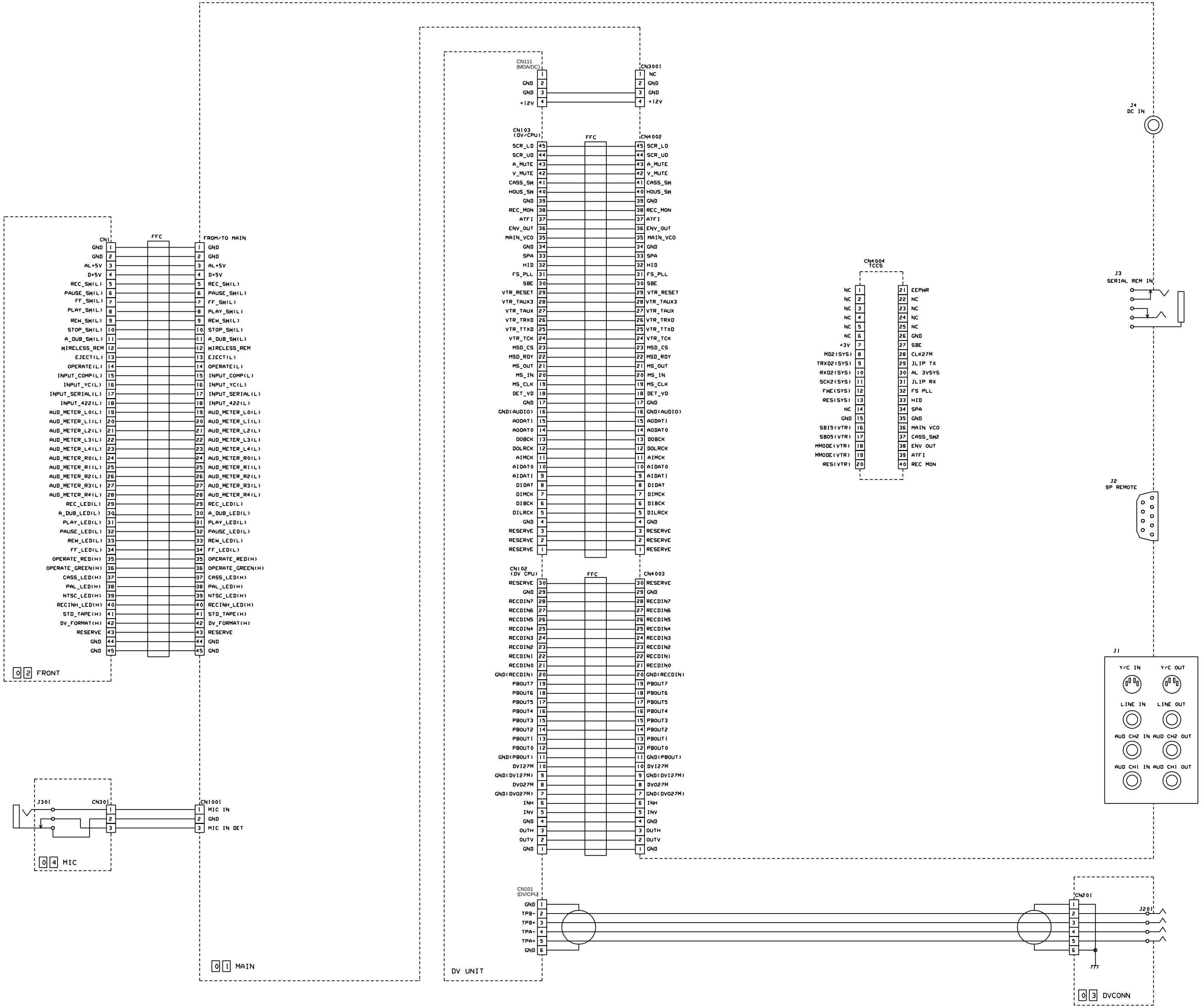
5.15 MECHA & MECHA CONN SCHEMATIC DIAGRAMS


TO 1 1
DV/CPU
CN104
(Page 5-18)
CN104
1 NC
2 GND
3 TAPE_LED
4 STD_CASS_SW
5 SP_LOCK_SW
6 CASETTE_SW
7 END_SENSOR
8 HOUSING2_SW
9 HOUSING1_SW
10 THERM_SENSOR
11 CA+3V
12 MODE_SENS
13 GND
VR1
NVQ0006-B14X
TH1
22k
R1
OPEN
S1
NSW0171-001X
S2
NSW0170-001X
S3
NSW0170-001X
LD1
LN59
LD2
OPEN
CN128
2 DEW_SENS.
1 GND
TO
DEW SENSOR
CN126
1 END_SENSOR
2 GND
3 HOUSING1_SW
4 HOUSING2_SW
TO
SENSOR
TO 1 2
MDA/DC
CN116
(Page 5-22)
CN116
1 R_FG_VCC(5V)
2 R_FG_OUT1
3 R_FG_GND
4 R_FG_OUT2
5 R_HE_U+
6 R_HE_GND
7 R_HE_U-
8 R_HE_V-
9 R_HE_V+
10 R_HE_W-
11 R_HE_VCC(5V)
12 R_HE_W+
13 R_COIL_W
14 R_COIL_W
15 R_COIL_U
16 R_COIL_U
17 R_COIL_V
18 R_COIL_V
19
20
CN124
18 FG_VCC(5V)
17 FG_OUT1
16 FG_GND
15 FG_OUT2
14 HE_U+
13 HE_GND
12 HE_U-
11 HE_V-
10 HE_V+
9 HE_W-
8 HE_VCC(5V)
7 HE_W+
6 COIL_W
5 COIL_W
4 COIL_U
3 COIL_U
2 COIL_V
1 COIL_V
TO
REEL MOTOR
TO 1 1
DV/CPU
CN106
(Page 5-18)
CN106
1 DEW_SENS.
2 LED2_1_SW
3 LED2_2_SW
4 MONI_R
5 GND(MONI)
6 MONI_V
7 MONI_L
8 EJECT_SW
9 GND
10 REC_SAFE
11 M.I.C._1
12 M.I.C._2
13 M.I.C._3
14 M.I.C._4
15 TU_REEL_SENS
16 GND
17 SP_REEL_SENS
18 REEL_LED
19 GND
20 START_SENSOR
S4
NO ASS'Y
JK1
NO ASS'Y
CN125
10 GND
9 REC_SAFE
8 M.I.C._1
7 M.I.C._2
6 M.I.C._3
5 M.I.C._4
4 TU_REEL_SENS
3 GND
2 SP_REEL_SENS
1 REEL_LED
TO
MECHA
CN127
2 GND
1 START_SENSOR.
TO
START SENSOR
1 3 MECHA

— MECHA CONN —


TO/FROM
DRUM MOTOR
CN100
1 MOTOR_GND
2 COIL_COMMON
3 PG/FG_COMMON
4 COIL_W
5 COIL_W
6 COIL_V
7 COIL_V
8 COIL_U
9 COIL_U
10 PG_OUT
11 FG_OUT
CN112
12 D_MOTOR_GND
11 D_COIL_COMMON
10 D_PG/FG_COMMON
9 D_COIL_W
8 D_COIL_W
7 D_COIL_V
6 D_COIL_V
5 D_COIL_U
4 D_COIL_U
3 D_PG_OUT
2 D_FG_OUT
1 D_MOTOR_GND
TO 1 2
MDA/DC
CN112
(Page 5-21)
1 4 MECHA CONN

5.5 OVERALL WIRING DIAGRAM


CN111 (MDA/DC)
1
GND 2
GND 3
+12V 4
CN3001
1 NC
2 GND
3 GND
4 +12V
CN103 (DV/CPU)
FFC
CN4002
SCR_LD 45 45 SCR_LD
SCR_UD 44 44 SCR_UD
A_MUTE 43 43 A_MUTE
V_MUTE 42 42 V_MUTE
CASS_SW 41 41 CASS_SW
HOUS_SW 40 40 HOUS_SW
GND 39 39 GND
REC_MON 38 38 REC_MON
ATFI 37 37 ATFI
ENV_OUT 36 36 ENV_OUT
MAIN_VCO 35 35 MAIN_VCO
GND 34 34 GND
SPA 33 33 SPA
HID 32 32 HID
FS_PLL 31 31 FS_PLL
SBE 30 30 SBE
VTR_RESET 29 29 VTR_RESET
VTR_TAUX3 28 28 VTR_TAUX3
VTR_TAUX 27 27 VTR_TAUX
VTR_TRXD 26 26 VTR_TRXD
VTR_TTXD 25 25 VTR_TTXD
VTR_TCK 24 24 VTR_TCK
MSD_CS 23 23 MSD_CS
MSD_RDY 22 22 MSD_RDY
MS_OUT 21 21 MS_OUT
MS_IN 20 20 MS_IN
MS_CLK 19 19 MS_CLK
DET_VD 18 18 DET_VD
GND 17 17 GND
GND(AUDIO) 16 16 GND(AUDIO)
AODATI 15 15 AODATI
AODAT0 14 14 AODAT0
DOBCK 13 13 DOBCK
DOLRCK 12 12 DOLRCK
AIMCK 11 11 AIMCK
AIDAT0 10 10 AIDAT0
AIDATI 9 9 AIDATI
DIDAT 8 8 DIDAT
DIMCK 7 7 DIMCK
DIBCK 6 6 DIBCK
DILRCK 5 5 DILRCK
GND 4 4 GND
RESERVE 3 3 RESERVE
RESERVE 2 2 RESERVE
RESERVE 1 1 RESERVE
CN102 (DV CPU)
FFC
CN4003
RESERVE 30 30 RESERVE
GND 29 29 GND
RECDIN7 28 28 RECDIN7
RECDIN6 27 27 RECDIN6
RECDIN5 26 26 RECDIN5
RECDIN4 25 25 RECDIN4
RECDIN3 24 24 RECDIN3
RECDIN2 23 23 RECDIN2
RECDIN1 22 22 RECDIN1
RECDIN0 21 21 RECDIN0
GND(RECDIN) 20 20 GND(RECDIN)
PBOUT7 19 19 PBOUT7
PBOUT6 18 18 PBOUT6
PBOUT5 17 17 PBOUT5
PBOUT4 16 16 PBOUT4
PBOUT3 15 15 PBOUT3
PBOUT2 14 14 PBOUT2
PBOUT1 13 13 PBOUT1
PBOUT0 12 12 PBOUT0
GND(PBOUT) 11 11 GND(PBOUT)
DVI27M 10 10 DVI27M
GND(DVI27M) 9 9 GND(DVI27M)
DVO27M 8 8 DVO27M
GND(DVO27M) 7 7 GND(DVO27M)
INH 6 6 INH
INV 5 5 INV
GND 4 4 GND
OUTH 3 3 OUTH
OUTV 2 2 OUTV
GND 1 1 GND
CN101 (DV/CPU)
GND 1
TPB- 2
TPB+ 3
TPA- 4
TPA+ 5
GND 6
CN201
1
2
3
4
5
6
J201
0 3 DVCONN
DV UNIT
CN1
FFC
FROM/TO MAIN
GND 1 1 GND
GND 2 2 GND
AL+5V 3 3 AL+5V
D+5V 4 4 D+5V
REC_SW(L) 5 5 REC_SW(L)
PAUSE_SW(L) 6 6 PAUSE_SW(L)
FF_SW(L) 7 7 FF_SW(L)
PLAY_SW(L) 8 8 PLAY_SW(L)
REW_SW(L) 9 9 REW_SW(L)
STOP_SW(L) 10 10 STOP_SW(L)
A_DUB_SW(L) 11 11 A_DUB_SW(L)
WIRELESS_REM 12 12 WIRELESS_REM
EJECT(L) 13 13 EJECT(L)
OPERATE(L) 14 14 OPERATE(L)
INPUT_COMP(L) 15 15 INPUT_COMP(L)
INPUT_YC(L) 16 16 INPUT_YC(L)
INPUT_SERIAL(L) 17 17 INPUT_SERIAL(L)
INPUT_422(L) 18 18 INPUT_422(L)
AUD_METER_L0(L) 19 19 AUD_METER_L0(L)
AUD_METER_L1(L) 20 20 AUD_METER_L1(L)
AUD_METER_L2(L) 21 21 AUD_METER_L2(L)
AUD_METER_L3(L) 22 22 AUD_METER_L3(L)
AUD_METER_L4(L) 23 23 AUD_METER_L4(L)
AUD_METER_R0(L) 24 24 AUD_METER_R0(L)
AUD_METER_R1(L) 25 25 AUD_METER_R1(L)
AUD_METER_R2(L) 26 26 AUD_METER_R2(L)
AUD_METER_R3(L) 27 27 AUD_METER_R3(L)
AUD_METER_R4(L) 28 28 AUD_METER_R4(L)
REC_LED(L) 29 29 REC_LED(L)
A_DUB_LED(L) 30 30 A_DUB_LED(L)
PLAY_LED(L) 31 31 PLAY_LED(L)
PAUSE_LED(L) 32 32 PAUSE_LED(L)
REW_LED(L) 33 33 REW_LED(L)
FF_LED(L) 34 34 FF_LED(L)
OPERATE_RED(H) 35 35 OPERATE_RED(H)
OPERATE_GREEN(H) 36 36 OPERATE_GREEN(H)
CASS_LED(H) 37 37 CASS_LED(H)
PAL_LED(H) 38 38 PAL_LED(H)
NTSC_LED(H) 39 39 NTSC_LED(H)
RECINH_LED(H) 40 40 RECINH_LED(H)
STD_TAPE(H) 41 41 STD_TAPE(H)
DV_FORMAT(H) 42 42 DV_FORMAT(H)
RESERVE 43 43 RESERVE
GND 44 44 GND
GND 45 45 GND
0 2 FRONT
J3001
CN3001
1
2
3
CN1001
1 MIC IN
2 GND
3 MIC IN DET
0 4 MIC
0 1 MAIN
CN4004 TCCS
NC 1 21 EEPWR
NC 2 22 NC
NC 3 23 NC
NC 4 24 NC
NC 5 25 NC
NC 6 26 GND
+3V 7 27 SBE
MD2(SYS) 8 28 CLK27M
TRXD2(SYS) 9 29 JLIP TX
RXD2(SYS) 10 30 AL 3VSYS
SCK2(SYS) 11 31 JLIP RX
FWE(SYS) 12 32 FS PLL
RES(SYS) 13 33 HID
NC 14 34 SPA
GND 15 35 GND
SBI5(VTR) 16 36 MAIN VCO
SBO5(VTR) 17 37 CASS_SW2
MMODE(VTR) 18 38 ENV OUT
MMODE(VTR) 19 39 ATFI
RES(VTR) 20 40 REC MON
J4 DC IN
J3 SERIAL REM IN
J2 9P REMOTE
J1
Y/C IN
Y/C OUT
LINE IN
LINE OUT
AUD CH2 IN
AUD CH2 OUT
AUD CH1 IN
AUD CH1 OUT

SECTION 1

SERVICE INFORMATION

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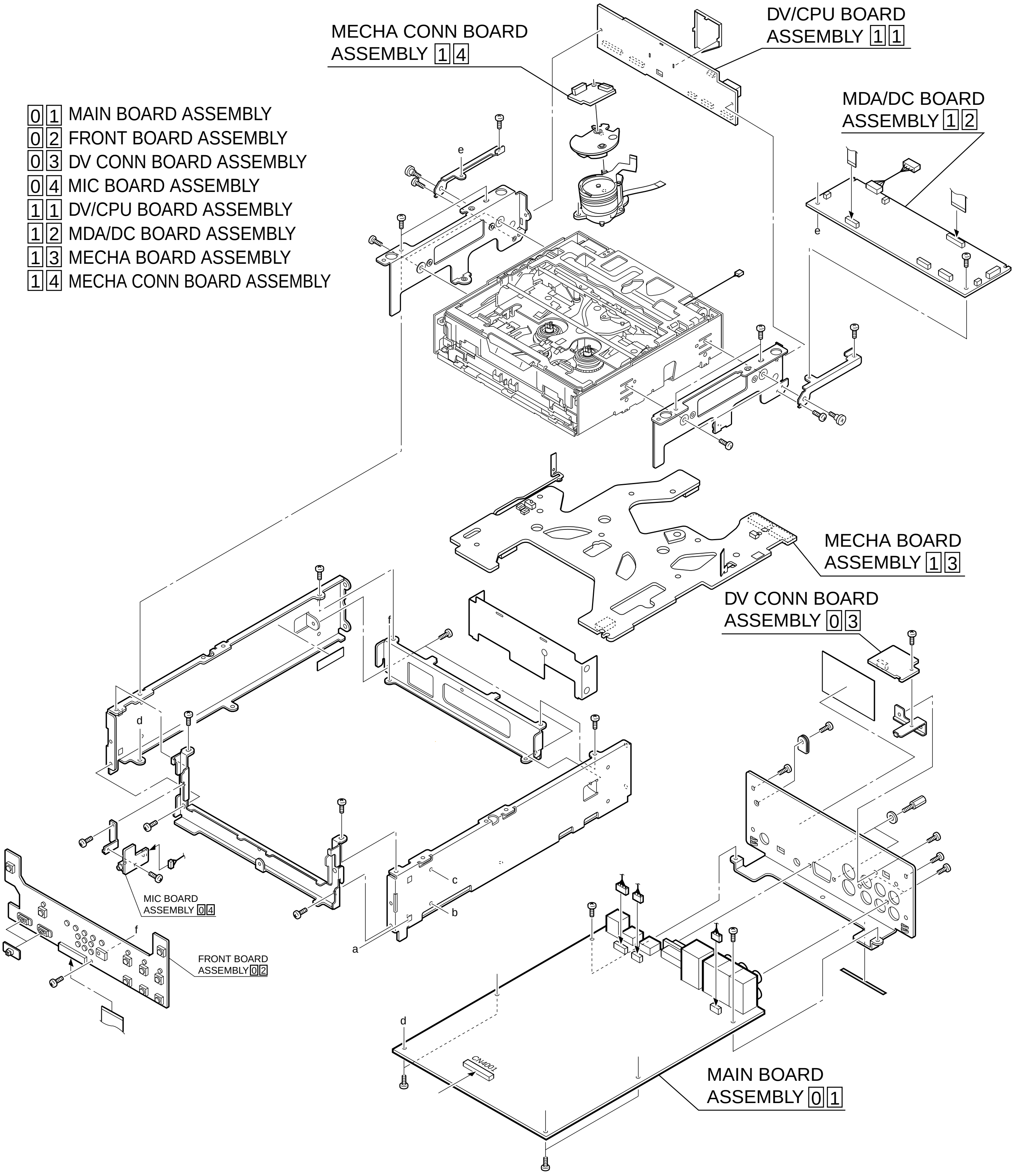
- 1.8.11 Real-time clock 1-17

SECTION 1
SERVICE INFORMATION

1.1 CONSTRUCTION OF THE MAIN BOARD


0 1 MAIN BOARD ASSEMBLY
0 2 FRONT BOARD ASSEMBLY
0 3 DV CONN BOARD ASSEMBLY
0 4 MIC BOARD ASSEMBLY
1 1 DV/CPU BOARD ASSEMBLY
1 2 MDA/DC BOARD ASSEMBLY
1 3 MECHA BOARD ASSEMBLY
1 4 MECHA CONN BOARD ASSEMBLY
MECHA CONN BOARD ASSEMBLY 1 4
DV/CPU BOARD ASSEMBLY 1 1
MDA/DC BOARD ASSEMBLY 1 2
MECHA BOARD ASSEMBLY 1 3
DV CONN BOARD ASSEMBLY 0 3
MIC BOARD ASSEMBLY 0 4
FRONT BOARD ASSEMBLY 0 2
MAIN BOARD ASSEMBLY 0 1
CN4001
a
b
c
d
d
e
e
f
f

1.2 HOW TO REMOVE THE OUTER COVER

1.2.1 Top cover

(1) Remove the four screws ①.
(2) Remove the top cover while lifting the rear part of it.

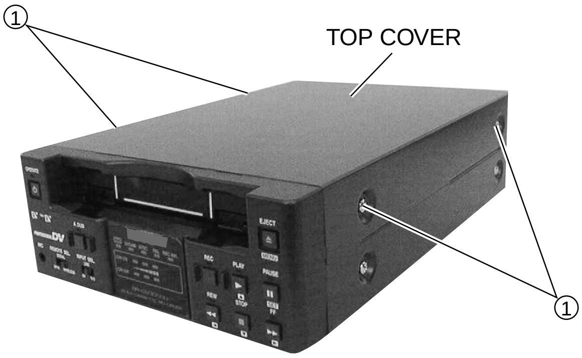


Fig. 1.2.1

1.2.2 Bottom cover

(1) Remove the four screws ②.
(2) Remove the bottom cover while lifting the rear part of it.

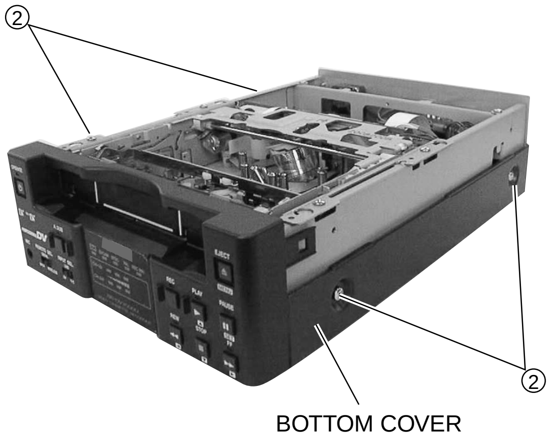


Fig. 1.2.2

1.2.3 Front panel

(1) Remove the top and bottom covers
(2) Remove the front panel while releasing the four hooks ①.

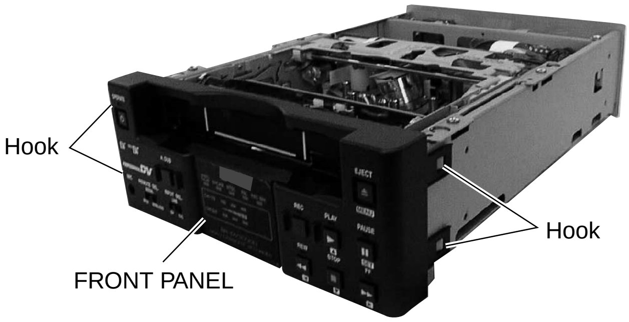


Fig.1.2.3

1.3 HOW TO REPLACE THE FUSE

(1) Unplug the DC power cable before replace the fuse.
(2) Remove the top cover.
(3) Find the fuse F1 on the MDA/DC board.

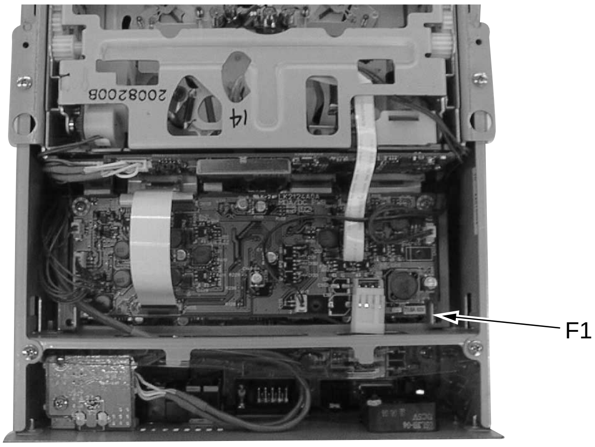


Fig. 1.3.1

CAUTION

- Before replacing the fuse, investigate and identify the cause of the blow out to prevent further damage.
- The fuse is an important item for safety . Please be sure to replace it with a fuse that has the specified parts numbers.

1.4 HOW TO EXAMINE THE BOARDS

1.4.1 MAIN board assembly

(1) Remove the bottom cover to examine the B-side of the main board.

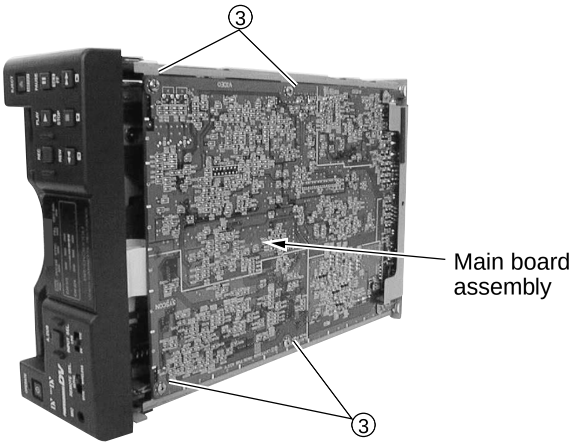

③
Main board assembly
③

Fig. 1.4.1 (1)

(2) Remove the four screws ③ to examine the A-side.
(3) Remove the two screws ④ on the rear cover.
(4) Pull down the main board as shown in fig. 1.4.1 (3).

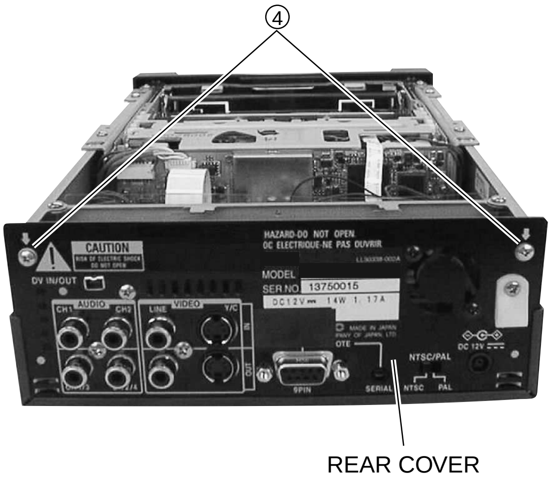
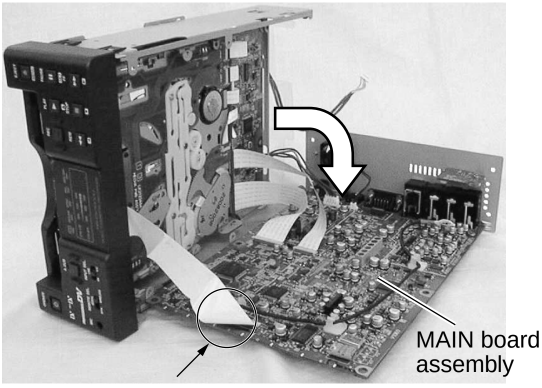

④
REAR COVER

Fig. 1.4.1 (2)


MAIN board assembly

Keep a distance to a minimum from the unit, because this FFC cable may be damaged.

Fig. 1.4.1 (3)

1.4.2 MDA/DC board assembly

(1) Remove the top cover to examine the A-side.
(2) To examine the B-side, pull down the main board as shown in Fig. 1.4.2 (2).

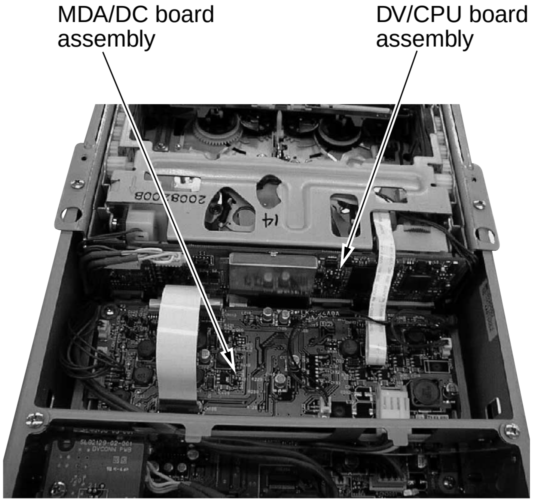

MDA/DC board assembly
DV/CPU board assembly

Fig. 1.4.2 (1)

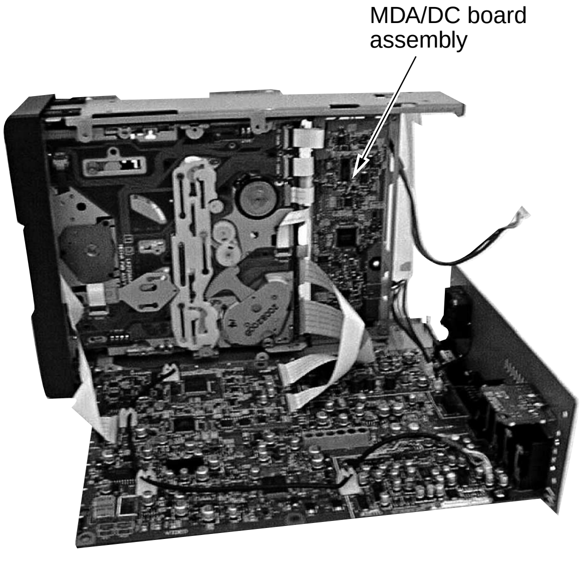

MDA/DC board assembly

Fig. 1.4.2 (2)

1.4.3 DV/CPU board assembly

(1) Remove the top cover as shown in Fig. 1.4.2 (1) to examine the DV/CPU board.

1.4.4 FRONT board assembly

(1) Remove the front panel to examine the front board.

(2) Remove the screw ⑤, and pull the board down to examine the B-side.

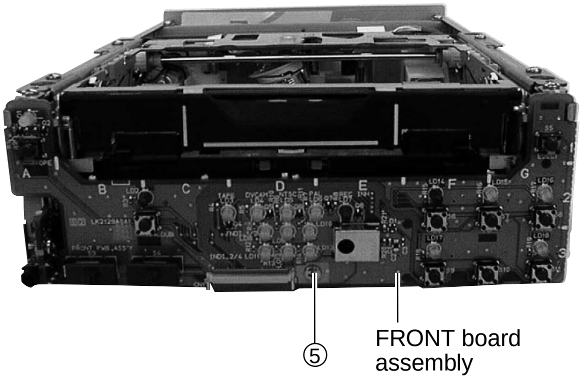

⑤
FRONT board assembly

Fig. 1.4.4

1.5 HOW TO REMOVE THE MECHANISM UNIT

(1) Remove the six screws ⑥.

(2) Remove the front panel.

(3) Remove the CN111 connector on the MDA/DC board.

(4) Remove the wire that are attached to the DV CONN board.

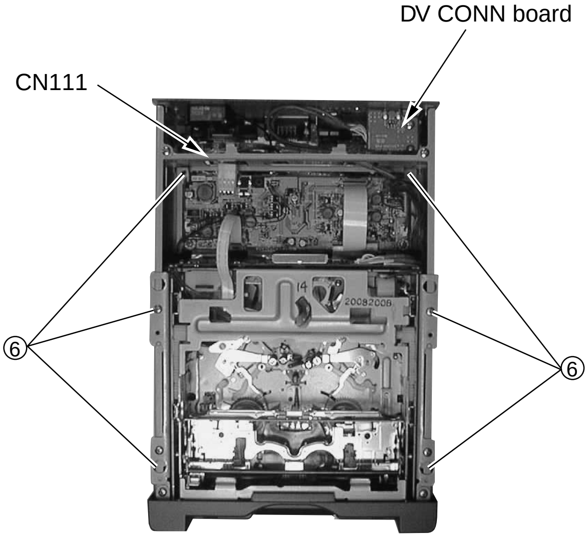

DV CONN board
CN111
⑥
⑥

Fig. 1.5.1

(5) Pull up the mechanism unit.

(6) Remove CN4002 and CN4003 (FFC cables connected to the main board).

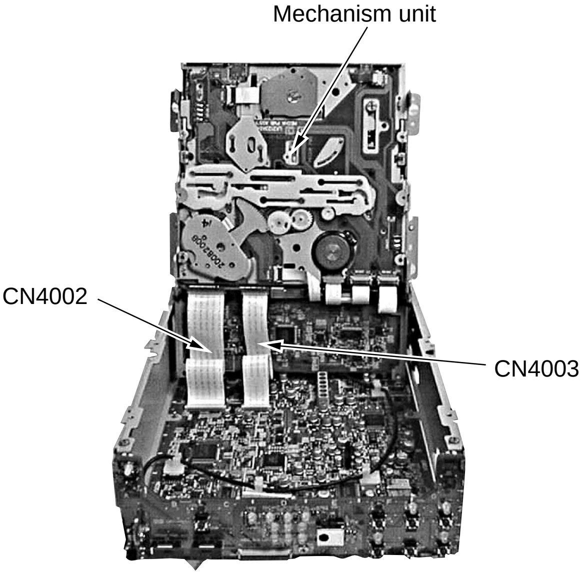

Mechanism unit
CN4002
CN4003

Fig. 1.5.2

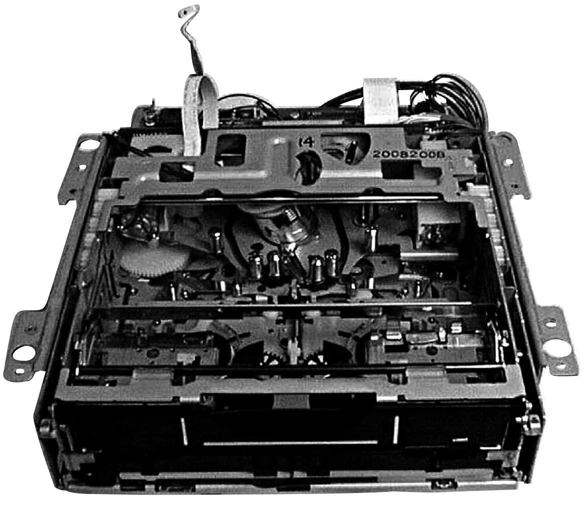


Fig. 1.5.3

1.6 HOW TO REMOVE THE MECHANISM ASSEMBLY

To remove only the mechanism assembly from the mechanism unit.

(1) Remove the shield case on the DV/CPU board and remove the CN107 FPC wire from the drum assembly.

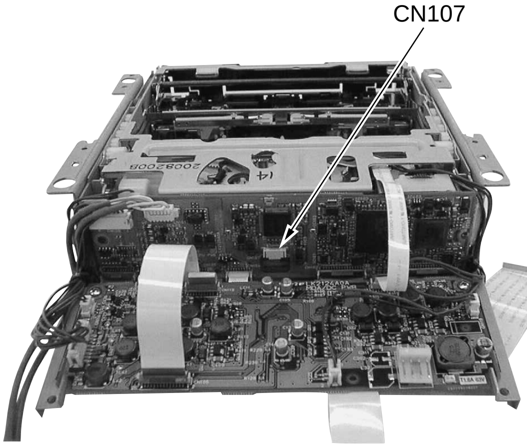


Fig. 1.6.1

(2) Remove the FFC wires that connects the mechanism board, which is mounted on the backs of the mechanism assembly, MDA/DC board, and the DV/CPU board.
(3) Remove the four screws ⑦ on the side.
(4) Remove the mechanism assembly as shown in Fig. 1.6.3.

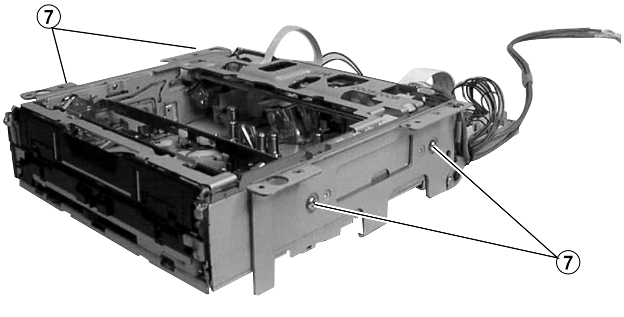


Fig. 1.6.2

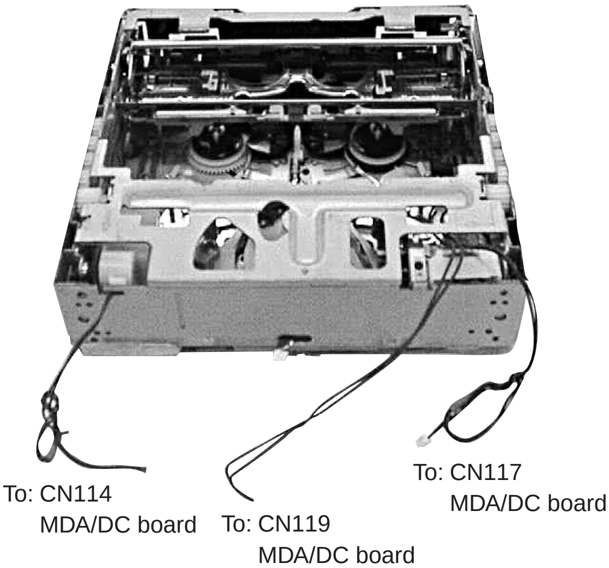

To: CN114
MDA/DC board
To: CN119
MDA/DC board
To: CN117
MDA/DC board

Fig. 1.6.3 Mechanism assembly

For instructions on disassembling each part of the mechanism assembly, please refer to the Section 2.

1.7 HOW TO TAKE OUT THE CASSETTE TAPE IN CASE OF EMERGENCY

An emergency system on this unit enables the cassette tape to be taken out manually.
When a cassette tape is stuck, take it out as described below.

Procedure

1. Gear Ⓐ : Emergency gear for MODE MOTOR
2. Gear Ⓑ : Emergency gear for REEL MOTOR
3. Gear Ⓒ : Emergency gear for HOUSING MOTOR

(1) In order to turn the mode motor, turn the gear Ⓐ (red color) in the direction of the arrow. While turning the gear also push it in to drive loading / unloading.

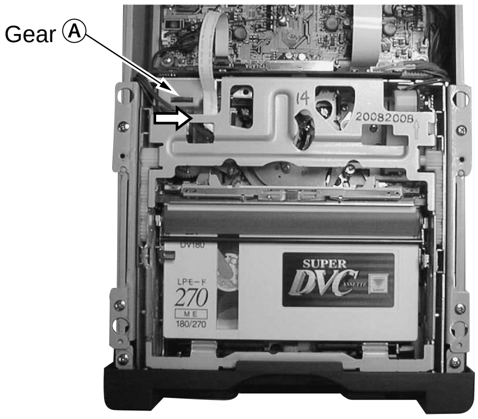


Fig. 1.7.1

(2) To wind the tape, when the tape is loosened a little, put a screw driver in the emergency gear Ⓑ, which drives the reel. (The drive direction does not matter.)

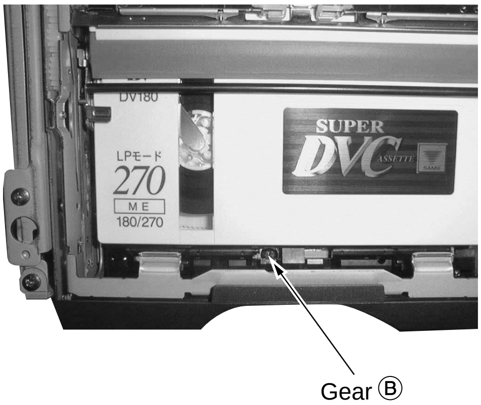


Fig. 1.7.2

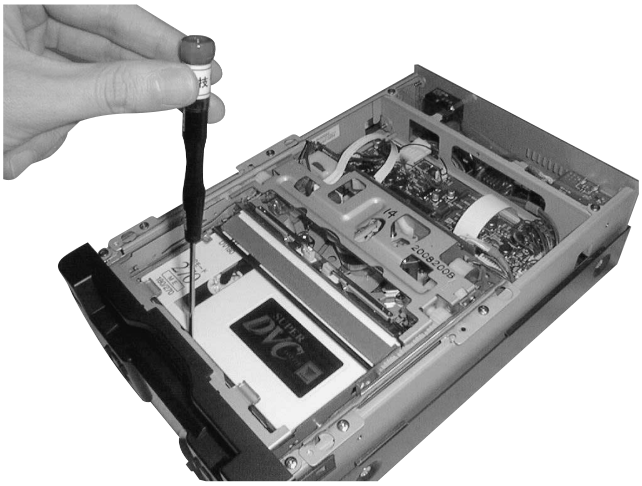


Fig. 1.7.3

(3) Repeat steps (1) and (2) alternately and little by little until the tape is wound completely into the cassette.

(4) Confirm that the tape is completely wound. Then, turn the gear Ⓒ (red color) in the direction of the arrow to eject the cassette housing. Take the cassette out when it comes out of the loading slot.

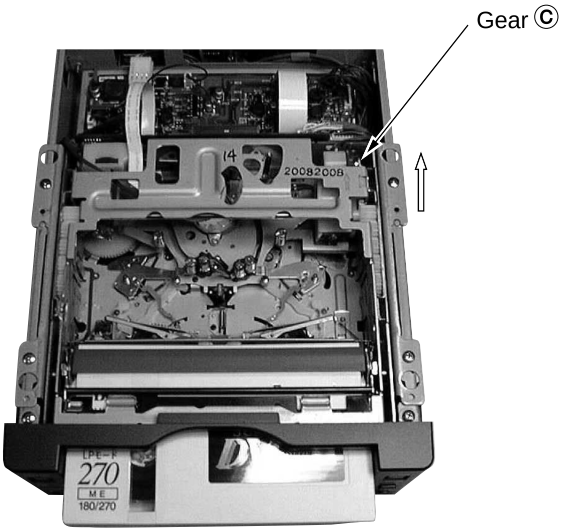


Fig. 1.7.4

1.8 SERVICE MENU

1.8.1 How to display the Service Menu

In no cassette condition, by pressing the MENU button for 2 seconds or longer while keeping either the REC or PLAY button pressed, the first tier of the Service Menu will be displayed on the video monitor. As shown in Table 1.8.1, the Service Menu content that is displayed will differ depending on which buttons you press together simultaneously.

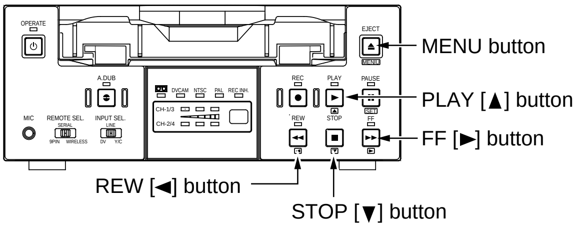

OPERATE
EJECT
A.DUB
MIC
REMOTE SEL.
SERIAL
5PIN
WIRELESS
INPUT SEL.
LINE
DV
Y/C
DVCAM
NTSC
PAL
REC INH.
CH-1/3
CH-2/4
REC
PLAY
PAUSE
REW
STOP
FF
MENU button
PLAY [▲] button
FF [▶] button
REW [◀] button
STOP [▼] button

Fig. 1.8.1 (1) Front Panel

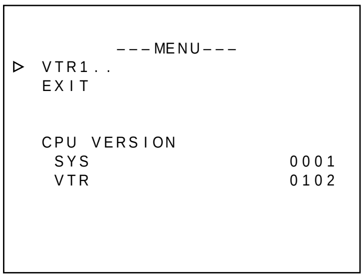
Item	Displayed Content	Activation Method	
		REC	PLAY
VTR1 MENU	VCR 1 Menu	○	○
VTR2 MENU	VCR 2 Menu	—	○
DIP SW	DIP SW Menu	—	○
HOUR METER	Hour Meter	—	○
ERROR HISTORY	Warning History	—	○
OTHERS	MENU SAVE etc.	—	○
CPU VERSION	CPU Version	○	—

Table 1.8.1 Service Menu First Tier List

1.8.2 How to operate the Menu

① Press the ▲ or ▼ button on the front panel to move the cursor to the mode you want to change.
② Press the [SET] (or ► button) to select the item.
③ Press the ▲ or ▼ button to change the parameter.
④ When finished making the change, press the [SET] button. The parameter stops blinking when the change has been confirmed. (Returning using the ◄ button or [MENU] button causes the setting to revert to the status prior to the change.)
⑤ When all settings are completed, move the cursor to "PAGE BACK" and press the [SET] button to return to the MENU screen.

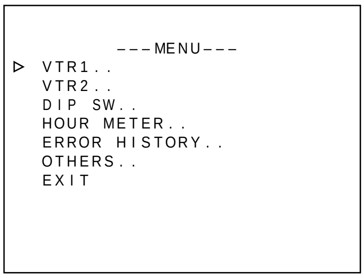
* If the ◄ button is pressed when the parameter is not blinking, it returns to the main screen.
* If the [MENU] button is pressed, it returns to the normal screen.



```
        ---MENU---
▷ VTR1..
  EXIT


  CPU VERSION
   SYS                 0001
   VTR                 0102
```

Fig. 1.8.2 (1) Menu Screen
(with REC pressed simultaneously)



```
        ---MENU---
▷ VTR1..
  VTR2..
  DIP SW..
  HOUR METER..
  ERROR HISTORY..
  OTHERS..
  EXIT
```

Fig. 1.8.2 (2) Menu Screen
(with PLAY pressed simultaneously)

1.8.3 VTR 1 menu

Item	Parameter	
REC REPEAT	OFF	No repeat recording
	2	Repeat recording 2 times
	12	Repeat recording 12 times
	ON	Full repeat recording
FOOT SW LEVEL	LEVEL1	Possible from any mode
	LEVEL2	Possible only from STOP or REC PAUSE mode
MIC REC CH	NORMAL	Record input signal from connected MIC only on CH2 (CH4 : during A.DUB mode)
	CH1-MIX	[No recording mode]. Do not record input signal from connected MIC on CH1/CH2 (No recording on CH3+4 during A.DUB)
	CH2-MIX	Record input signal from connected MIC on CH1/CH2 (CH3/CH4 during A.DUB)
ID 422 (H)	F0	High Device ID (00~FF). First bit is fixed at PAL1, NTSC0
ID 422 (L)	4E	Low Device ID (00~FF)
FF/REW SPEED	x50	Maximum FF/REW speed is regulated to x50
	x75	Maximum FF/REW speed is regulated to x75
	x100	Maximum FF/REW speed is regulated to x100
	MAX	No maximum FF/REW speed regulation
DV DF MASK (PAL only)	OFF	“1” is recorded as per format
	ON	“0” is always recorded

☐ is default setting when shipped from factory.

Table 1.8.3 VTR 1 Menu Setting Item List

1.8.4 VTR 2 menu

Item	Parameter	
LONG PAUSE	OFF	Disables long pause function
	ON	Enables long pause function
REC MODE	SP	SP recording
	LP	LP recording (Do not change since performance cannot be guaranteed)
LP WARNING	OFF	LP INH not displayed (Enables playback with LP mode) (Do not change since performance cannot be guaranteed)
	ON	LP INH displayed (Disables playback with LP mode)
TEST SIGNAL	OFF	Output color bars only. Do not output any other TEST signals.
	ON	Use BARS button of a attached wireless controller reception to trigger output TEST signal, rotating in this order: Color bars → Color bars (rotate per track) → Grayscale → Grayscale (rotate per track) → Multi burst (Y signal only) → Multi burst (Y and C signals) → 100% white → Red → Black burst
TEMP THRESHOLD	220	Threshold of rising temperature warning display, 00~255 (220 [DCh] = internal temperature approx. 60°C). Refer to item “TEMP” in table 1.8.7 (1)
BATT. SHUT DOWN	10.5	Voltage value to carry out power OFF operation (Set at OFF, 10.0~12.0 in increments of 0.1)
BATT. ALARM	11.0	Voltage value to trigger display of battery alarm warning (Set at 10.0~12.0 in increments of 0.1)

☐ is default setting when shipped from factory.

Table 1.8.4 VTR 2 Menu Setting Item List

1.8.5 DIP switch menu

Sets the DIP SW. (All status are set to “OFF” or “0” when shipped.)

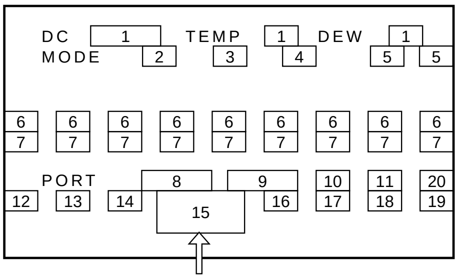
Item	Parameter	Default setting at factory
DIP SW 1/3		
DIP SW – 0	1: Displays error rate monitor and CPU port information	0
DIP SW – 1	ON: Disables warning detection	OFF
DIP SW – 2	Change prohibited	OFF
DIP SW – 3	ON: Disables DEW warning	OFF
DIP SW – 4	Change prohibited	OFF
DIP SW – 5	Change prohibited	OFF
DIP SW – 6	Change prohibited	0
DIP SW – 7	Change prohibited	OFF
DIP SW 2/3		
DIP SW – 8	Change prohibited	OFF
DIP SW – 9	Change prohibited	OFF
DIP SW – 10	ON: Displays error rate solely for audio block on the error rate monitor screen	OFF
DIP SW – 11	Change prohibited	OFF
DIP SW – 12	Change prohibited	OFF
DIP SW – 13	Change prohibited	OFF
DIP SW – 14	Change prohibited	OFF
DIP SW – 15	Change prohibited	OFF
DIP SW 3/3		
DIP SW – 16	Change prohibited	OFF
DIP SW – 17	Change prohibited	OFF
DIP SW – 18	Change prohibited	OFF
DIP SW – 19	Change prohibited	OFF
DIP SW – 20	Change prohibited	OFF
DIP SW – 21	Change prohibited	OFF
DIP SW – 22	Change prohibited	OFF
DIP SW – 23	Change prohibited	OFF

☐ is default setting when shipped from factory

Table 1.8.5 DIP SW Menu Setting Item List

Error Rate Monitor

By setting DIP SW-0 to “1”, the error rate value is displayed in position [15] on the monitor screen.
The error rate value is always Viterbi ON mode, with CH-1 shown in the upper row, and CH-2 shown in the lower row and total AUDIO/VIDEO.
When the error rate increases, a warning message "HEAD CLEANING REQUIRED" is displayed. The detection threshold for display is when the error rate value is over 4,500 (one-channel AV total) for 7 seconds consecutively.



Error Rate Display Value

Fig.1.8.5 DIP SW-0 Display Screen

1.8.6 HOUR METER menu

Displays and resets the various types of hour meters.
When the parameter is set to “CLEAR” and the SET button is pressed, the hour meter is cleared.

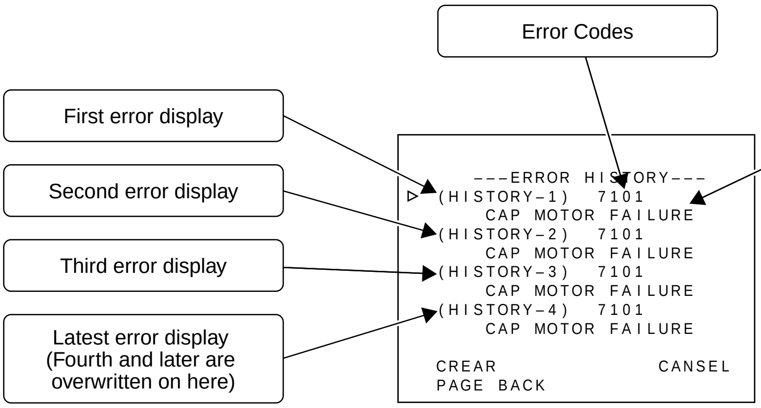
Item	Parameter		Time duration/number of times display is possible
DRUM	Time display H	Displays the drum hour meter (for drum maintenance)	000000~999999
	CLEAR	Resets the drum hour meter	Time duration
TOTAL DRUM	Time display H	Displays the total drum hour meter	000000~999999
			Time duration
POWER	Time display H	Displays the power hour meter	000000~999999
	CLEAR	Resets the power hour meter	Time duration
CAPSTAN	Time display H	Displays the capstan hour meter	000000~999999
	CLEAR	Resets the capstan hour meter	Time duration
REEL FWD	Time display H	Displays the reel forward direction running hour meter	000000~999999
	CLEAR	Resets the reel forward direction running hour meter	Time duration
REEL REV	Time display H	Displays the reel reverse direction running hour meter	000000~999999
	CLEAR	Resets the reel reverse direction running hour meter	Time duration
LOADING	Number display	Displays the number of times a tape was loaded	000000~999999
	CLEAR	Resets the number of times a tape was loaded	Number of times (events)
EJECT (MINI)	Number display	Displays the number of times a mini cassette was ejected	000000~999999
	CLEAR	Resets the number of times a mini cassette was ejected	Number of times (events)
EJECT (STD)	Number display	Displays the number of times a standard cassette was ejected	000000~999999
	CLEAR	Resets the number of times a standard cassette was ejected	Number of times (events)
FWD/REV	Number display	Displays the number of FWD/REV switchings	000000~999999
	CLEAR	Resets the number of FWD/REV switchings	Number of times (events)
FF/REW	Number display	Displays the number of FF/REW switchings	000000~999999
	CLEAR	Resets the number of FF/REW switchings	Number of times (events)
CLEANER	Number display	Displays the number of times the cleaner was activated	000000~999999
	CLEAR	Resets the number of times the cleaner was activated	Number of times (events)

☐ is default setting when shipped from factory

Table 1.8.6 HOUR METER Menu Setting Item List

1.8.7 ERROR HISTORY menu

It can display 4 errors that have occurred in the past.
Initially, when there is no error history in the memory, the first error to occur will be logged in the first position (HISTORY-1). The second and third errors to occur will be logged in (HISTORY-2) and (HISTORY-3). All subsequent errors will be overwritten in (HISTORY-4).
The fourth and subsequent errors are set to overwrite in order to prevent the user from repeatedly attempting to use a malfunctioning unit and thereby erasing any record of the initial cause error. Be sure to clear the error history before returning a repaired unit to the customer.
When resetting ERROR HISTORY, set the parameter for “CLEAR” to “EXECUTE”, and press the [SET] button.

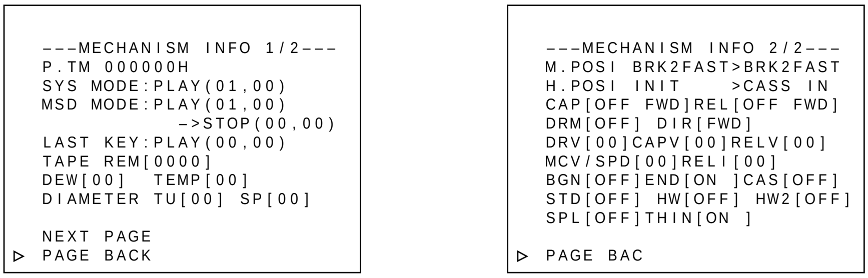


```
      ---ERROR HISTORY---
▷ (HISTORY-1)  7101
      CAP MOTOR FAILURE
  (HISTORY-2)  7101
      CAP MOTOR FAILURE
  (HISTORY-3)  7101
      CAP MOTOR FAILURE
  (HISTORY-4)  7101
      CAP MOTOR FAILURE

  CREAR                  CANSEL
  PAGE BACK
```

Fig. 1.8.7 (1) ERROR HISTORY

(1) MECHANISM INFO (Detailed information when error occurs)
Move the cursor to the error code on the “ERROR HISTORY” screen, and press the [SET] button (or ▶ button) to display the MECHANISM INFO screen as it was at the time of the error, you can check the details of the malfunction.



```
  ---MECHANISM INFO 1/2---
  P.TM 000000H
  SYS MODE:PLAY(01,00)
  MSD MODE:PLAY(01,00)
             ->STOP(00,00)
  LAST KEY:PLAY(00,00)
  TAPE REM[0000]
  DEW[00]  TEMP[00]
  DIAMETER TU[00] SP[00]

  NEXT PAGE
▷ PAGE BACK
```

```
  ---MECHANISM INFO 2/2---
  M.POSI BRK2FAST>BRK2FAST
  H.POSI INIT     >CASS IN
  CAP[OFF FWD]REL[OFF FWD]
  DRM[OFF] DIR[FWD]
  DRV[00]CAPV[00]RELV[00]
  MCV/SPD[00]RELI[00]
  BGN[OFF]END[ON ]CAS[OFF]
  STD[OFF] HW[OFF] HW2[OFF]
  SPL[OFF]THIN[ON ]

▷ PAGE BAC
```

Fig. 1.8.7 (2) MECHANISM INFO Display Screen

Item	Content	Displayed Content
P.TM	POWER HOUR METER	Power hour meter is display.
SYS MODE	SYSCON CPU mode when error occurred PLAY (03, 00) ⇧ ⇧ MODE DATA Parameter	SFF/SREW parameter is speed display. (Refer to Fig. 1.8.7 (2) Speed parameter) Parameters of other modes are irrelevant. EJECT (01) : Eject ADUB (0B) : Audio Dub STOP (02) : Stop ADBP (0C) : Audio Dub Pause PLAY (03) : Play REC (13) : Rec STL (04) : Still RECP (14) : Rec Pause FF (05) : FF DVRC (15) : DV Rec REW (06) : Rew DVRP (16) : DV Rec Pause SFF (07) : Search Fwd POFF (1A) : Power Off SREW (08) : Search Rev NDEF (1F) : During initial operation
MSD MODE	MSD CPU mode and target mode when error occurred PLAY (01, 00) ⇧ ⇧ MODE DATA Parameter	
LAST KEY	Final Key code when error occurred PLAY (E7, 01) ⇧ ⇧ MODE DATA Parameter	SFF/SREW parameter is speed display (See Fig. 1.8.7(2)) Other parameters are 01: ON, 00: OFF REC (E0) : Rec SFF (EB) : Search Fwd RECP (E1) : Rec Pause SREW (EC) : Search Rev DVRP (E2) : DV Rec Pause STOP (F0) : Stop ADUB (E5) : Audio Dub EJECT (F1) : Eject ADBP (E6) : Audio Dub Pause HWUP (F2) : Housing Up PLAY (E7) : Play HWDN (F3) : Housing Down STL (E8) : Still POFF (F4) : Power Off FF (E9) : FF DVRC (F5) : DV Rec REW (EA) : Rew PON (FA) : Power on
TAPE REM	TAPE REMAIN	Displays tape remaining in minutes ([FFFF] : not detected)
DEW	DEW sensor A/D intake value	DEW detects (at low temp. [13], at normal temp [CD]) DEW off (at low temp. [12], at normal temp [99])
TEMP	Temperature sensor A/D intake value The value "49" [5°C] is threshold of detecting low temperture. The value "DC" [60°C] is the threshold of displaying "OVER HEATING" message.	Temperature is displayed in hexadecimal value. -10°C ➡ [22] 20°C ➡ [7C] 50°C ➡ [CC] - 5°C ➡ [2D] 25°C ➡ [8C] 55°C ➡ [D4] 0°C ➡ [3A] 30°C ➡ [9C] 60°C ➡ [DC] 5°C ➡ [49] 35°C ➡ [AA] 10°C ➡ [59] 40°C ➡ [B7] 65°C ➡ [E1] 15°C ➡ [6A] 45°C ➡ [C2] 70°C ➡ [E6]
DIAMETER	Displays wound tape diameter (Take-up, Supply)	[00]—[FF] : 0mm-82mm (Diameter) ([00] is non-detected)
M. POSI	Mechanism position and target mechanism position	[2ULD], [ULD2BRK], [BRK], [BRK2FAST], [FAST], [FAST2STP], [STP], [STP2SRH], [SRH], [SRH2], [INIT]("2" is the meaning of "TO". It means transition. Refer to section 2, Mechanism Timing Chart.)
H. POSI	Housing position and target housing position	[EJECT], [EJECT2IN], [CASS IN], [RELEASE](Release the SUP reel lock.) [INIT](For the intake and eject operation, refer to section 8.2.3.)
CAP	Capstan status	[ON] : Rotate [FWD/REV]: Direction display [OFF] : Stop
REL	Reel status	[ON] : Rotate [FWD/REV]: Direction display [OFF] : Stop
DRM	Drum status	[ON] : Rotate [OFF] : Stop
DIR	Direction of tape running (Direction of target)	[FWD/REV] : Direction display
DRV	Drum control voltage	[00-FF] : 0—3V
CAPV	Capstan control voltage	[00-FF] : 0—3V
RELV	Reel control torque value	[00-FF] : 0—3A

<table>
<tr><th>Item</th><th>Content</th><th>Displayed Content</th></tr>
<tr><td rowspan="2">MCV/SPD</td><td>Loading/cassette housing control voltage (when error code 4xxx and error code 3xxx is displayed.)</td><td>[00-FF] : 0—8V (Displays mode motor control voltage during error code 3xxx)
[00-FF] : 0-11V (Displays cassette motor control voltage during error code 4xxx)</td></tr>
<tr><td>Tape speed (When the code excepting error code 4xxx and error code 3xxx is displayed.)</td><td>[00-FA] : 0—25X (FF is displayed when the speed is faster than this.)
“Tape speed” is a function to convert the hexadecimal value into a decimal value, and no speed parameter of the tape.
(ex. FAh = 250 → The speed is 25.0X.)</td></tr>
<tr><td>RELI</td><td>Reel current (Cassette housing motor current during housing-related warning)</td><td>[00-FF] : 0—1.2A</td></tr>
<tr><td>BGN</td><td>Begin sensor</td><td>[ON] : Leader tape detected
[OFF] : Magnetic tape detected</td></tr>
<tr><td>END</td><td>End sensor</td><td>[ON] : Trailer tape detected
[OFF] : Magnetic tape detected</td></tr>
<tr><td>CAS</td><td>Cassette SW status</td><td>[OFF] : No cassette
[ON] : Cassette detected (STD/MINI)</td></tr>
<tr><td>STD</td><td>Standard cassette SW status</td><td>[OFF] : Mini cassette tape inserted
[ON] : STD cassette tape inserted</td></tr>
<tr><td>HW, HW2</td><td>Housing SW/Housing 2SW status</td><td><table>
<tr><th>HW SW</th><th>HW2 SW</th><th>Housing status</th></tr>
<tr><td>[OFF]</td><td>[ON]</td><td>–</td></tr>
<tr><td>[ON]</td><td>[OFF]</td><td>EJECT (Initial position)</td></tr>
<tr><td>[OFF]</td><td>[OFF]</td><td>Cassette intake</td></tr>
<tr><td>[ON]</td><td>[ON]</td><td>Ejecting Mini cassette</td></tr>
</table></td></tr>
<tr><td>SPL</td><td>SUP Lock SW status (during loading)</td><td>[ON] : Normal operation (TU side tape winding)
[OFF] : Lock release
(Tape begin detected, Supply side tape winding mode)</td></tr>
<tr><td>THIN</td><td>Thin tape detection</td><td>[ON] : THIN
[OFF] : NORMAL</td></tr>
</table>

Table 1.8.7 (1) MECHANISM INFO content

Parameter	Speed	Parameter	Speed
00	x 0	82	x 1.08
1F	x 0.03	83	x 1.11
40	x 0.10	84	x 1.12
53	x 0.20	85	x 1.16
61	x 0.30	91	x 2.00
6D	x 0.50	A9	x 5.00
7A	x 0.80	BD	x 9.00
7B	x 0.84	C0	x 10.0
7D	x 0.90	C4	x 12.0
7F	x 0.96	CC	x 15.0
80	x 1.00	D3	x 20.0
81	x 1.04		

Table 1.8.7 (2) Speed parameter

(2) Error code description

Error code	Display	Content of occurrence	Method of detection	Detected signal
0201	CONDENSATION ON DRUM	DEW detected	If DEW sensor detects condensation	IC302 (MSD) –detects voltage of pin 318
3200	LOADING FAILURE	Does not load	If mechanism position does not move in loading direction within 5 seconds	IC302-pin354 Rotary encoder output is detected
3300	UNLOADING FAILURE	Does not unload	If mechanism position does not move in unloading direction within 5 seconds	IC302-pin354 Rotary encoder output is detected
	No display	Does not intake	If intake is not completed within 5 seconds (Perform ejects without warning)	IC302 (MSD) –pin 84, CASSETTE SW is not detected within 5 seconds
4100	CASSETTE EJECT FAILURE	Does not eject	If eject is not completed within 5 seconds	IC302 (MSD) –pin 26, HOUSING SW is not detected within 5 seconds
5605	DEFECTIVE TAPE	Tape abnormality during intake	If begin and end sensor are ON after intake	IC302 (MSD) –pin 278, START sensor and pin 297, END sensor are both detected
5606	DEFECTIVE TAPE	Tape tear during unloading	If reel FG is excessive during unloading	IC302 (MSD) –pin 75, TU REEL FG is detected
5607	DEFECTIVE TAPE	Tape tear during loading	If reel FG is insufficient during loading	IC302 (MSD) –pin 75, TU REEL FG is detected
5608	DEFECTIVE TAPE	Tape tear on the loading side	If only supply side reel does not rotate during FWD/REV	IC302 (MSD) –pin 72, SUP REEL FG is not detected
5609	DEFECTIVE TAPE	Tape tear during slack takeup	If tape slack takeup is not completed within 10 seconds	IC302 (MSD) –pin 75, TU REEL FG and pin 72, SUP REEL FG are both detected
5702	TAPE END DET. ERROR	End sensor malfunction	If trailer tape sending is not completed within 3 seconds	IC302 (MSD) –pin 297, END sensor is detected for over 3 seconds
5802	TAPE BEGIN DET. ERROR	Begin sensor malfunction	If leader tape sending is not completed within 3 seconds	IC302 (MSD) –pin 278, START sensor is detected for over 3 seconds
7001	DRUM MOTOR FAILURE	Drum motor does not rotate	If drum motor does not rotate for over 4 seconds	IC302 (MSD) –pin 55, DRUM FG is not detected for over 4 seconds
7101	CAP MOTOR FAILURE	Capstan motor does not rotate	If capstan motor does not rotate for over 2 seconds	IC302 (MSD) –pin 56, CAP FG is not detected for over 2 seconds
7202	SUPPLY REEL FAILURE	SUP reel does not rotate	If SUP reel does not rotate for over 3 seconds	IC302 (MSD) –pin 72, SUP REEL FG is not detected for over 3 seconds
7203	SUPPLY REEL FAILURE	SUP side tape slack	If only SUP reel does not rotate during REV	IC302 (MSD) –pin 72, SUP REEL FG is not detected
7302	TAKE UP REEL FAILURE	TU reel does not rotate	If TU reel does not rotate for over 3 seconds	IC302 (MSD) –pin 75, TU REEL FG is not detected for over 3 seconds
7303	TAKE UP REEL FAILURE	TU side tape slack	If only TU reel does not rotate during FWD	IC302 (MSD) –pin 75, TU REEL FG is not detected
7305	TAKE UP REEL FAILURE	Tape slack during unloading	If TU reel FG is insufficient during unloading	IC302 (MSD) –pin 75, TU REEL sensor is detected
7401	REEL MOTOR FAILURE	Reel motor does not rotate	If reel motor does not rotate for more than 4 seconds during reel drive mode	IC302 (MSD) –pin 91, REEL FG is not detected for over 4 seconds

Table 1.8.7 (3) Error Code Contents

1.8.8 OTHERS menu

<table>
<tr><th>Item</th><th colspan="2">Parameter</th></tr>
<tr><td rowspan="2">MEMORY SW LOAD</td><td>OFF</td><td>Standard setting</td></tr>
<tr><td>START</td><td>Menu SW information is loaded from a store aria.</td></tr>
<tr><td rowspan="2">MEMORY SW SAVE</td><td>OFF</td><td>Standard setting</td></tr>
<tr><td>START</td><td>Menu SW information is saved to a store aria.</td></tr>
<tr><td rowspan="2">ALL RESET</td><td>CANCEL</td><td>Standard setting</td></tr>
<tr><td>I,U,E,EC</td><td>Resets all EEP-ROM data to default settings except adjustment data, hour meter data, and IEEE1394 ID data.
Default settings differ by market region.
I: for Japan, U: for USA, E: for EU, EC: for China</td></tr>
<tr><td>MEM.EDIT</td><td colspan="2">Contents of the EEP-ROM can be edited directly
ADR: Address (0-03FF) display
DATA: Display of data embedded in address shown by ADR

Operation procedure
1 Press the ▲ or ▼ button to move the cursor to MEM or EDIT.
② Press the ▶ button to make the ADR parameter blink.
③ Press the ▲ or ▼ button to select the ADR parameter you want to edit. (Pressing ▲ or ▼ while keeping the “A.DUB” button pressed will cause it to count up or down in increments of 10.)
④ Press the ▶ button to make the DATA parameter blink.
⑤ Press the ▲ or ▼ button to make changes in the DATA parameter.
⑥ Press the [SET] button and confirm the DATA parameter. (The parameter stops blinking)

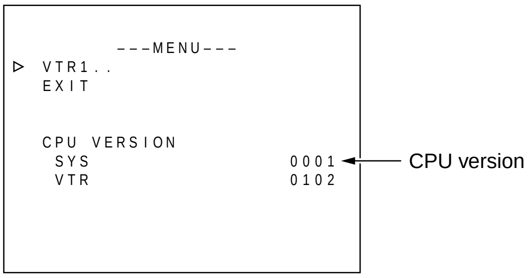
(NOTE)
The EEPROMs store important data for the system and careless rewriting may make normal operation of the system impossible. Do not use this function for purposes other than the IEEE1394 ID date that is described.</td></tr>
<tr><td rowspan="2">OPERATION CHECK</td><td>CANCEL</td><td>Standard setting</td></tr>
<tr><td>EXECUTE</td><td>Enters the OPERATION check mode. All LEDs turn on. By operating the relevant buttons and slide switches, the operation of the buttons and LEDs can be checked as shown in the following list.
To exit from this mode, turn OPERATE to OFF.
<table>
<tr><th>Button</th><th colspan="2">LED display contents</th></tr>
<tr><td>OPERATE</td><td colspan="2">Power ON/OFF SW</td></tr>
<tr><td>EJECT</td><td colspan="2">Cassette tape LED goes out</td></tr>
<tr><td>STOP</td><td colspan="2">All except OPERATE LED go out</td></tr>
<tr><td>FF</td><td colspan="2">FF LED goes out</td></tr>
<tr><td>PLAY</td><td colspan="2">PLAY LED goes out</td></tr>
<tr><td>REW</td><td colspan="2">REW LED goes out</td></tr>
<tr><td>PAUSE</td><td colspan="2">PAUSE LED goes out</td></tr>
<tr><td>REC</td><td colspan="2">REC LED goes out</td></tr>
<tr><td>A.DUB</td><td colspan="2">A.DUB LED goes out</td></tr>
<tr><td rowspan="3">INPUT SELECT</td><td>DV</td><td>Rch LED comes on, Lch LED comes on</td></tr>
<tr><td>LINE</td><td>Rch LED comes on, Lch LED goes out</td></tr>
<tr><td>Y/C</td><td>Rch LED goes out, Lch LED comes on</td></tr>
<tr><td rowspan="3">REMOTE/LOCAL</td><td>9PIN</td><td>DV CAM LED comes on, REC INH LED goes out</td></tr>
<tr><td>SERIAL</td><td>DV CAM LED goes out, REC INH LED comes on</td></tr>
<tr><td>WIRELESS</td><td>DV CAM LED comes on, REC INH LED comes on</td></tr>
<tr><td rowspan="2">NTSC/PAL(REAR)</td><td>NTSC</td><td>NTSC LED comes on, PAL LED goes out</td></tr>
<tr><td>PAL</td><td>NTSC LED goes out, PAL LED comes on</td></tr>
</table></td></tr>
<tr><td rowspan="2">REAR SER. SEL</td><td>SERIAL</td><td>REAR terminal is used as the SERIAL REMOTE terminal.</td></tr>
<tr><td>TCCS</td><td>REAR terminal is used as the TCCS terminal (factory use)
By pressing REC + ADB simultaneously while powering up, the forced TCCS mode is engaged.</td></tr>
</table>

☐ is default setting when shipped from factory

Table 1.8.8 OTHERS Menu Setting Items List

1.8.9 CPU version menu

Displays version of SYSCON CPU and MSD (VCR) CPU.



```
        ---MENU---
▷ VTR1..
  EXIT

  CPU VERSION
   SYS                  0001
   VTR                  0102
```

Firmware version

SYSCON	PLSL1144-VX-XX
MSD (VTR)	PLSL1141-VX-XX

Fig. 1.8.9 CPU Version Display

1.8.10 EEP-ROMS

(1) EEP-ROMS and stored data

AG-DV2500 is equipped with two EEP-ROMS for the purpose of data stored, and their contents are as per the following list. When the circuit board or EEP-ROM is replaced, there will be no data in the EEP-ROM. When the unit is powered up, and the SYSCON CPU or MSD CPU recognizes that there is no data in the EEP-ROM, it automatically writes initial data into the EEP-ROM to initialize it. The memory data shown in Table 1.8.10 will all be reset back to default settings, so it will be necessary to perform necessary adjustments and settings again.

EEP-ROM	Circuit board name	Memory data content
IC301	DV/CPU circuit board (MSD CPU) MAIN circuit board	• Adjusted data (DVC section: Adjustment menu No. 100-121) • IEEE1394 ID data • HOUR METER data
IC2003	(SYSCON CPU)	• Adjusted data (VCR section: Adjustment menu No. 200-274) • User menu and Service menu settings data • ERROR HISTORY

Table 1.8.10 EEP-ROM Memory Data Content

(2) IEEE1394 ID setting method

IEEE1394 equipped units have an ID, as defined by the IEEE1394 standard, stored in the internal EEP-ROM (IC 301). At the time of production, the ID assigned for each individual unit are written into the EEP-ROM, and a sticker bearing the ID is affixed inside the unit. When the EEP-ROM (DV/CPU board assembly) or DV/CPU board assembly is replaced, the ID needs to be set again.

Procedure for setting IEEE1394 ID

The ID is an 8 digit, hexadecimal code, with 1 high Byte being the model code, and 3 low Bytes being individual to the unit. The model code is automatically initialized, so only the lower 3 Bytes of individual code need to be set manually. Go from Service Menu → OTHERS Menu → MEM. EDIT (Memory Edit) to select the address in the ID data section and make the setting directly. The 3 low Byte address is as follows. Make the setting while confirming the ID printed on the label (ID: 80xxxxxx) pasted on the inside of the AG-DV2500 (See Fig. 1.8.10).

IEEE1394 ID data : 80 xx xx xx (Indicates on the label of AG-DV2500 inside.)
↓ ↓ ↓
Address data “391” “392” “393”

Setting procedure

(1) Press the ▲ or ▼ button to move the cursor to MEM. EDIT.
(2) Press the ▶ button to make the ADR parameter blink.
(3) Press the ▲ or ▼ button to select ADR parameter "391".
(4) Press the ▶ button to make the DATA parameter blink.
(5) Press the ▲ or ▼ button to set ADR = "391" for the ID.
(6) Press the [SET] button to confirm the DATA parameter.
(7) In the same manner, select ADR parameter "392" and "393" to set the ID data.

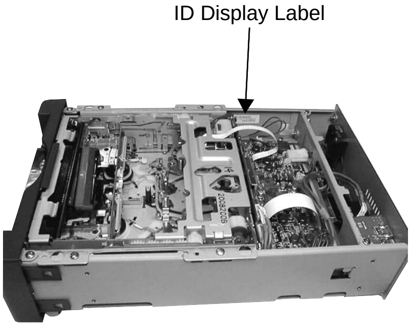

ID Display Label

Fig. 1.8.10 ID Label Attachment Position

1.8.11 Real-time clock

The IC2002 (RS5C314) on the MAIN circuit board is a CMOS real-time clock IC that sends time/calendar data to the CPU via serial transmission. When power is not being supplied to the BT2001, there is a secondary battery (3V) to backup the IC2002. By charging for 4 hours, it provides 3 months of backup. When power is being supplied, AL3V is sent through D2002 to the IC2002 8pin, and through D2003 the BT2001 enters a state of being charged. When external power supply (AL3V) ceases, BT2001 is discharged through D2002 and the current is sent to the IC2002 8pin, resulting in a state of backup.

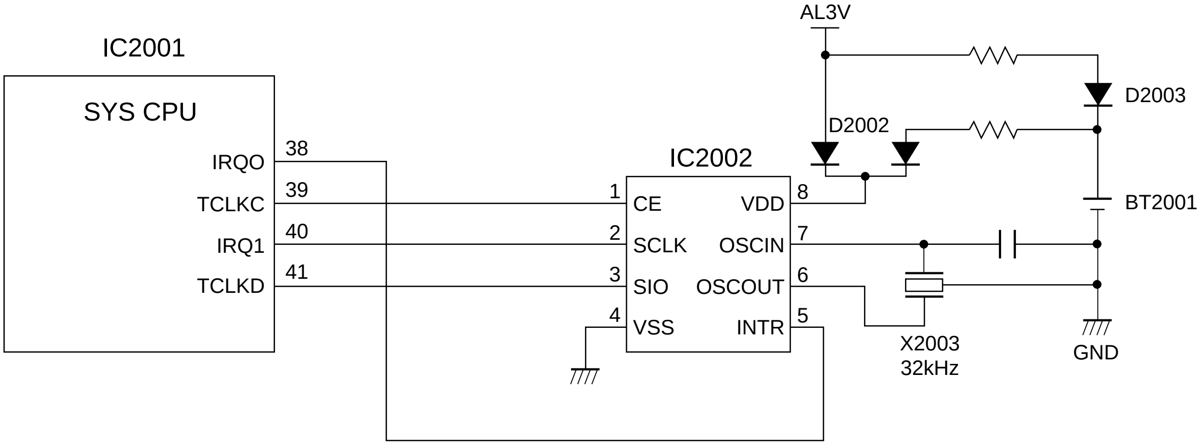

IC2001
SYS CPU
IRQO
TCLKC
IRQ1
TCLKD
38
39
40
41
IC2002
1
2
3
4
CE
SCLK
SIO
VSS
VDD
OSCIN
OSCOUT
INTR
8
7
6
5
AL3V
D2002
D2003
BT2001
X2003
32kHz
GND

Fig. 1.8.11 Real-time Clock Circuit

SECTION 2

MECHANICAL ADJUSTMENTS

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  2.1.2 Measuring instruments required for adjustments 2-1
  2.1.3 Equipment required for adjustments 2-1
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  2.2.2 Mode transition 2-2
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SECTION 2
MECHANICAL ADJUSTMENTS

2.1 BEFORE ADJUSTMENTS

2.1.1 Precautions

1) Be sure to apply a screw securing torque when attaching a part.
   The securing torque should be 0.14 N/m (1.4 kgf/cm) unless otherwise specified.
2) Always unplug the power cord of the set before attaching, removing or soldering a part.
3) When unplugging a connector, do not pull the wire but grasp the connector body.
4) Do not make an adjustment or rotate a potentiometer blindly while the source of trouble is not identified.
5) Before adjusting electrical circuitry, be sure to wait for more than 10 minutes after turning the power on.

2.1.2 Measuring instruments required for adjustments

Instrument	Condition
Oscilloscope	Calibrated instrument with measuring bandwidth of 100 MHz or more.

Table 2-1-1

2.1.3 Equipment required for adjustments

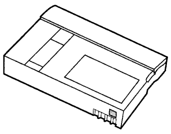
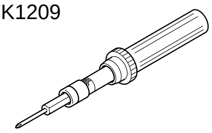
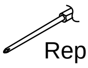
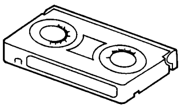
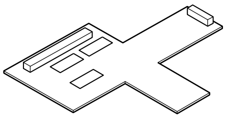
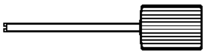
1	Alignment tape	4	Torque screwdriver	
	VFK1842 		VFK1209 	VFK1845  Replaceable bit (long type)
2	Cassette torque meter	5	REWRITE board (Connector board)	
	VFK1843 for FWD mode VFK1844 for REV mode 		VFK1846 	
3	Post driver			
	VFK1149 			

Table 2-1-2

2.2 DISASSEMBLY/ASSEMBLY OF THE MECHANISM

2.2.1 Mechanism position for disassembly/assembly

The mechanism should basically be disassembled and assembled in the unloading end (No Cassette) position.
However, other mechanism position is sometimes required for disassembly or assembly. In such a case, the required position is specified every time in the descriptions in 2.6, “Replacement of major parts”.

2.2.2 Mode transition

To change the mechanism mode manually, rotate the emergency gear of the mode motor assembly shown in Fig. 2.2.1 as below while holding it down.
The mechanism mode can be changed by applying 3 V DC to the mode motor electrodes.
The MINI and STD reel positions can be changed over by manually sliding the reel change plate.

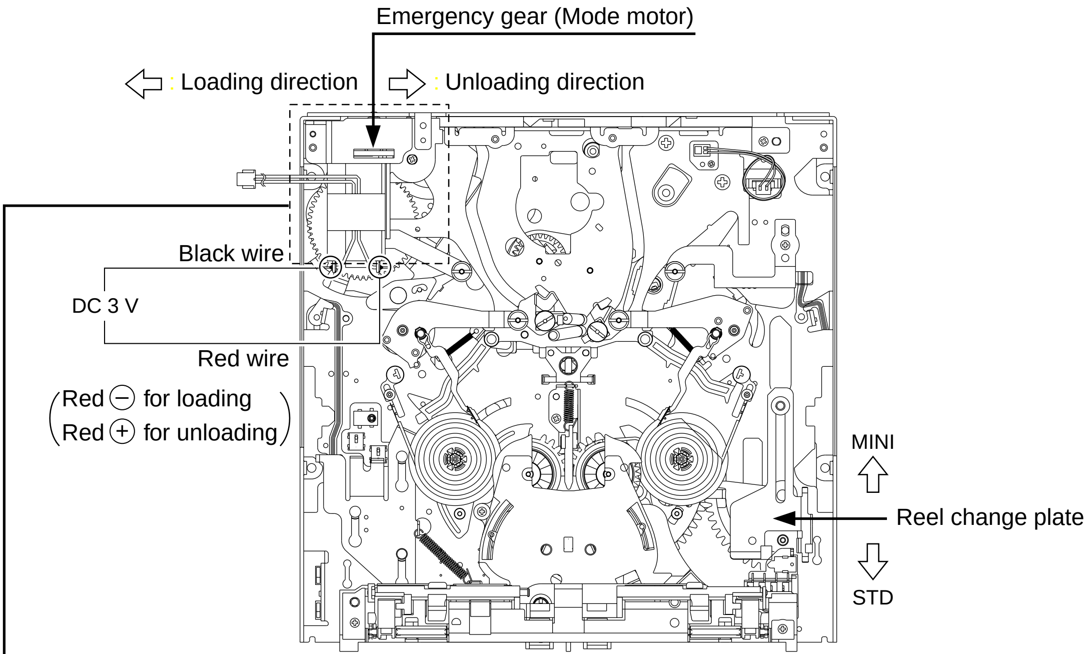

Emergency gear (Mode motor)
⇦ : Loading direction
⇨ : Unloading direction
Black wire
DC 3 V
Red wire
(Red ⊖ for loading
Red ⊕ for unloading)
MINI
Reel change plate
STD

Fig. 2.2.1

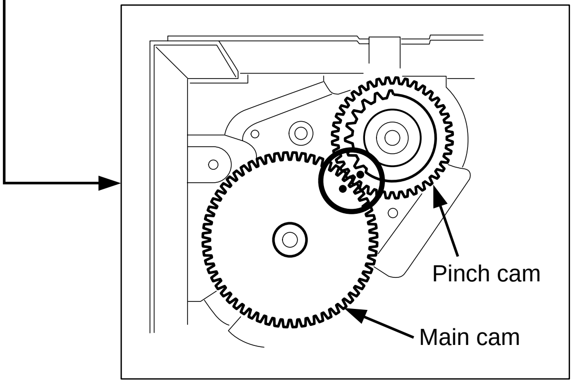

Pinch cam
Main cam

Fig. 2.2.2

Important:
When turn the Emergency gear (Mode) to Unloading direction by hand until the hole of the Main cam and the hole of the pinch cam in a straitline connecting. (refer to Fig.2.2.2)
Please do not turn the Emergency gear (Mode) more than the above.

2.3 MECHANISM TIMING CHART

See Table 2-3-1 below.

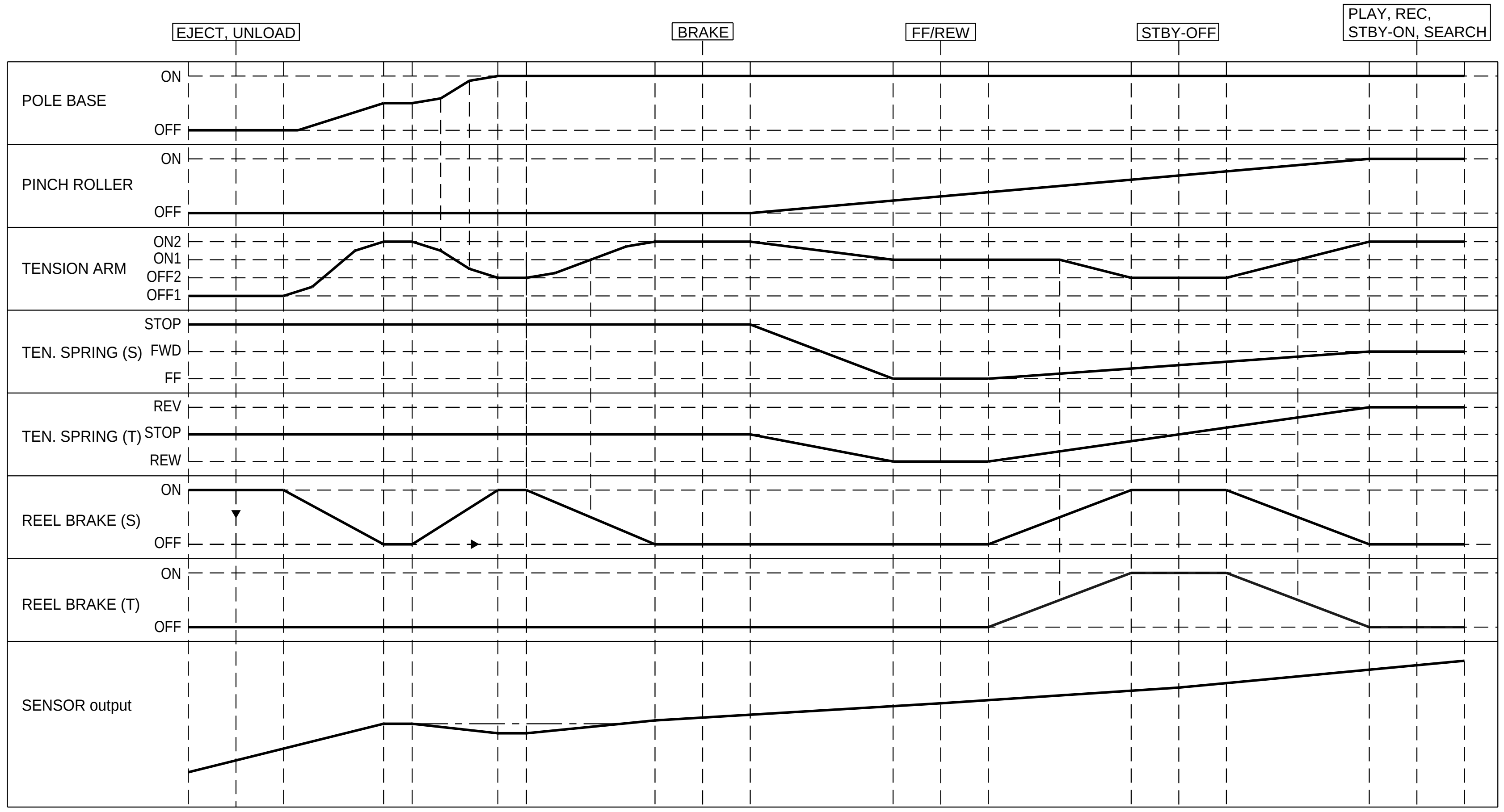


Table 2-3-1

2.4 MAINTENANCE AND INSPECTION OF MAJOR PARTS

Periodical inspection and maintenance are requisite to maintain the initial performance and reliability of the product. Table 2-4-1 (Maintenance & Inspection List) has been compiled assuming standard operating conditions, and the specifications in the table are greatly variable depending on the actual operating environment and conditions. Remember that, if the maintenance and inspection are not enforced properly, the operating hours of the product will not only reduce considerably but other unfavorable influences may produce.

Rubber parts may deform or degrade after long period of storage even if they are not used in this period.

The service life of the drum is variable depending on the tape used and operating environment.

2.4.1 Layout of Major Parts

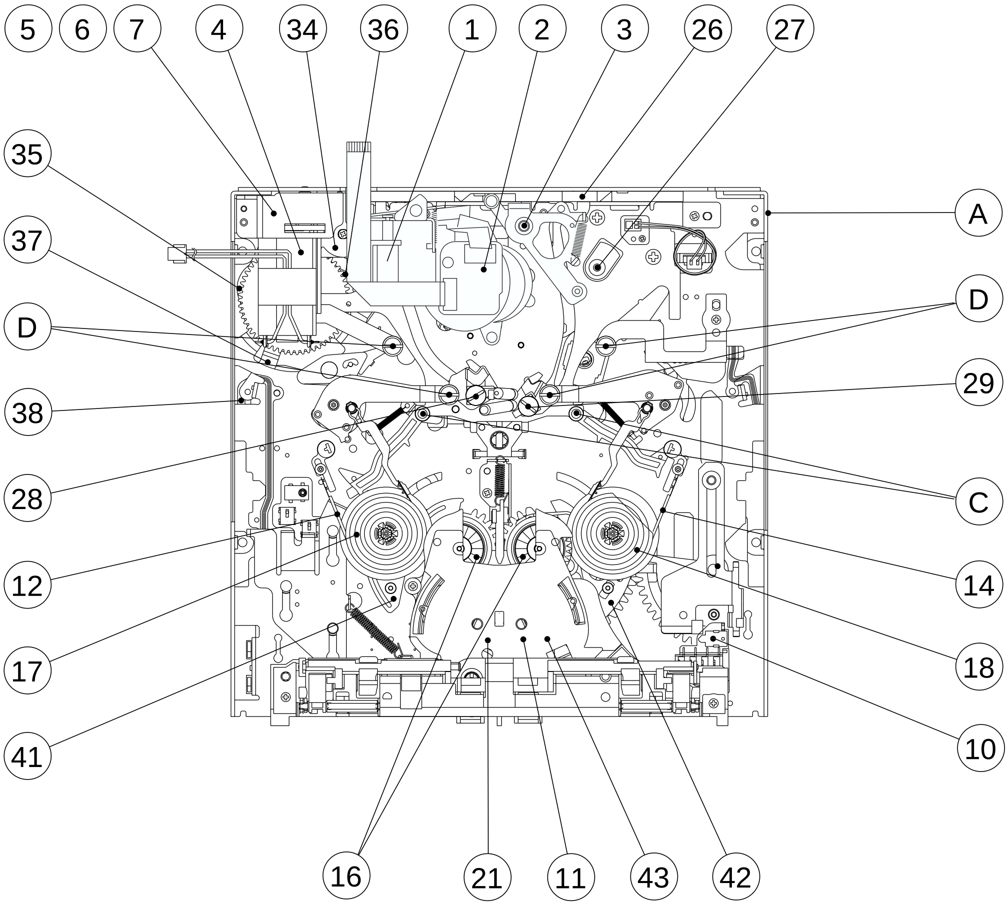


Fig. 2.4.1

2.4.2 Maintenance/inspection table

1) Replace the whole mechanism assembly in the 6000H maintenance.
2) The SUP/TU tension arm assemblies, sub-deck assembly (ENT. G. roller section) and EGR ARM assembly have undergone perpendicularity management after being assembled. If any of the above assemblies needs replacement, the whole mechanism assembly should be replaced.

	Part Name	**Symbol No.**	**Operating Hours (DRUM Hour Meter)**												**Ref. Section**
			500	**1000**	**1500**	**2000**	**2500**	**3000**	**3500**	**4000**	**4500**	**5000**	**5500**	**6000**	
1	㉘ SUP P. BASE ASSEMBLY	M 3 66	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.6.17
2	㉙ TU P. BASE ASSEMBLY	M 3 67	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.6.17
3	Ⓓ GUIDE ROLLER	M 3 30	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.4.1
4	Ⓓ COLLER	M 3 31	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.4.1
5	Ⓓ FRANGE	M 3 32	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.4.1
6	③ PINCH R.ARM ASSEMBLY	M 3 4	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.6.3
7	② DRUM ASSEMBLY	M 3 80	★	★	★	●	★	★	★	●	★	★	★	—	2.6.2
8	㉗ CAPSTAN SHAFT	M 3 64	★	★	★	★	★	★	★	★	★	★	★	—	
9	㉗ CAPSTAN MOTOR	M 3 64	—	—	—	—	—	—	—	—	—	○	—	—	2.6.16
10	㉑ REEL MOTOR	M 3 24	—	—	—	—	—	—	—	—	—	○	—	—	2.6.13
11	⑩ M.I.C. terminal	M 3 51	★	★	★	★	★	★	★	★	★	★	★	—	
12	⑩ M.I.C. CONNECTOR ㊸ FPC 1 ASSEMBLY ⑪ IDLER COVER	M 3 51 M 3 49 M 3 52	— ★ —	— ★ —	— ★ —	— ★ —	— ★ —	— ★ —	— ★ —	— ★ —	— ★ —	— ★ —	— ★ —	— — —	2.6.6 2.6.25 2.6.7
13	Ⓒ CASSETTE GUIDE PIN		★	★	★	★	★	★	★	★	★	★	★	—	2.4.1
15	④ MODE MOTOR ASSEMBLY	M 3 47	—	—	—	—	—	—	—	—	—	—	—	—	2.6.4
16	㉟ MAIN CAM	M 3 12	—	—	—	—	—	—	—	—	—	—	—	—	2.6.20
17	⑥ GEAR 1	M 3 44	—	—	—	—	—	—	—	—	—	—	—	—	2.6.4
18	⑦ GEAR 2	M 3 45	—	—	—	—	—	—	—	—	—	—	—	—	2.6.4
19	⑤ WORM WHEEL	M 3 46	—	—	—	—	—	—	—	—	—	—	—	—	2.6.4
20	㉞ PINCH CAM GEAR	M 3 13	—	—	—	—	—	—	—	—	—	—	—	—	2.6.20
21	㉖ PINCH PLATE	M 3 17	—	—	—	—	—	—	—	—	—	—	—	—	2.6.16
22	㊳ CTL. PLATE	M 3 9	—	—	—	—	—	—	—	—	—	—	—	—	2.6.22
23	㊲ CTL. ARM ASSEMBLY	M 3 56	—	—	—	—	—	—	—	—	—	—	—	—	2.6.21
24	㊱ ARM GEAR	M 3 11	—	—	—	—	—	—	—	—	—	—	—	—	2.6.21
25	㊶ SUP REEL PLATE ASSEMBLY	M 3 54	—	—	—	—	—	—	—	—	—	—	—	—	2.6.24
26	㊷ TU REEL PLATE ASSEMBLY	M 3 55	—	—	—	—	—	—	—	—	—	—	—	—	2.6.24
27	⑰ SUP REEL DISK ASSEMBLY	M 3 35	—	○	—	●△	—	○	—	●△	—	○	—	—	2.6.10
28	⑱ TU REEL DISK ASSEMBLY	M 3 36	—	○	—	●△	—	○	—	●△	—	○	—	—	2.6.10
29	⑯ CONN. GEAR ASSEMBLY	M 3 37	—	○	—	●△	—	○	—	●△	—	○	—	—	2.6.10
30	⑫ SUP TENSION BAND ASSEMBLY	M 3 38	—	○	—	●	—	○	—	●	—	○	—	—	2.6.8
31	⑭ TU TENSION BAND ASSEMBLY	M 3 39	—	○	—	●	—	○	—	●	—	○	—	—	2.6.9
32	⑪ IDLER ARM ASSEMBLY	M 3 40	—	○	—	●	○	○	—	●	—	○	—	—	2.6.7
33	① HEAD CLEANAER	M 3 5A	○	●	○	●	—	●	○	●	○	●	○	—	2.6.2
34	Ⓑ CASSETTE HOUSING ASSEMBLY	M 3 90	—	—	—	—	—	—	—	—	—	—	—	—	2.6.1
35	Ⓐ MECHANISM ASSEMBLY	M 3 1	—	—	—	—		—	—	—	—	—	—	●	

★: Clean with ethyl alcohol. ○: Check and replace if required. ●: Replace. △: Oil the shaft.
After replacing a part, apply lubricant to the required points.

Table 2-4-1

2.4.3 Cleaning

The tape transport system should be cleaned periodically. Be sure to clean the tape transport system upon receipt of a set for servicing, etc. To clean use a cleaning cloth moistened with ethyl alcohol.

1) When the video head is stained, the playback output level decreases and a read error will not be able to be corrected by the error correction. If this occurs, block noise appear on the monitor, the audio will not be output, and the video output will eventually be lost when the video head becomes extremely dirty. To clean the drum, while applying cleaning cloth (service part No. : VZZ0095) or high quality paper gently to the upper drum, rotate the upper drum in the normal (counterclockwise) rotation direction.
   The dirt deposited on the video head can be removed by playing a cleaning tape.

CAUTION

Do not move the cleaning paper while applying it to the video head. Otherwise, the video head may be damaged.

2) The lower drum tends to attract dirt on the leader section and the linearity cannot be guaranteed when the lower drum becomes extremely dirty. Particularly, the tape inlet and output sections gather dirt easily, causing symptoms such as dropout of the reproduced FM signal, deterioration of video quality and lack of audio output. In order to clean the leader section, rub a toothpick gently along its edge.

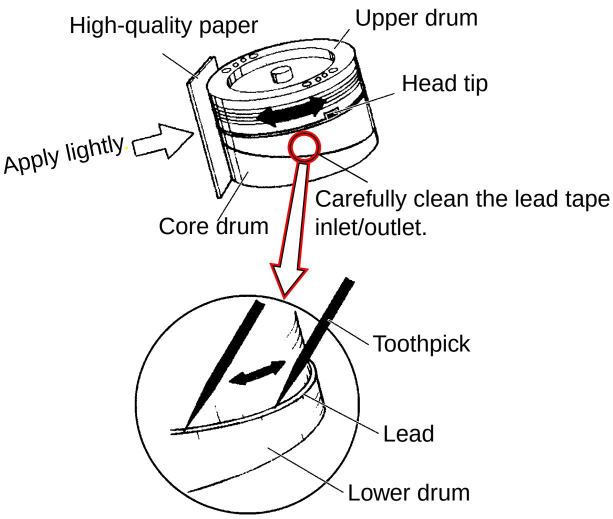


Fig. 2.4.2

3) Stain of the tape transport system leads to tape damage. When magnetic dust or dirt penetrates inside the rollers, a rotation malfunction may affect the video. Clean the tape transport parts carefully using a cleaning cloth or cotton swab moistened with ethyl alcohol.

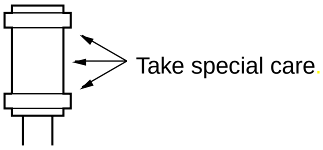


Fig. 2.4.3

2.4.4 Oiling and Greasing

Table 2-4-2 shows the oil and greases used with the set.

Classification	Name	Part No.
Oil	Cosmo Hydro HV100	VFK1778
Grease	Maltemp SH-P	VFK1748

Table 2-4-2

1) Oiling should be performed periodically. Oil the shafts by referring to the maintenance table.
2) After replacing a part, grease the required points. For the parts to be greased see the exploded diagram in section 6, “EXPLODED VIEWS & REPLACEMENT PARTS LIST”.
3) As Hanal separates over time, be sure to mix it (shake) well before use.
4) Take care not to leave grease or oil on the tape transport parts which come into contact with the tape or on the brake pads.
5) Take care not to apply too much oil or grease. The standard oiling quantity is one drop and the standard greasing quantity is the quantity with which the grease does not overflow.

2.5 PERIODICAL MAINTENANCE

Perform maintenance at the correct times in accordance with the maintenance table.
Fig. 2-5-1 shows the flow chart of periodical maintenance procedures at different operating hours.

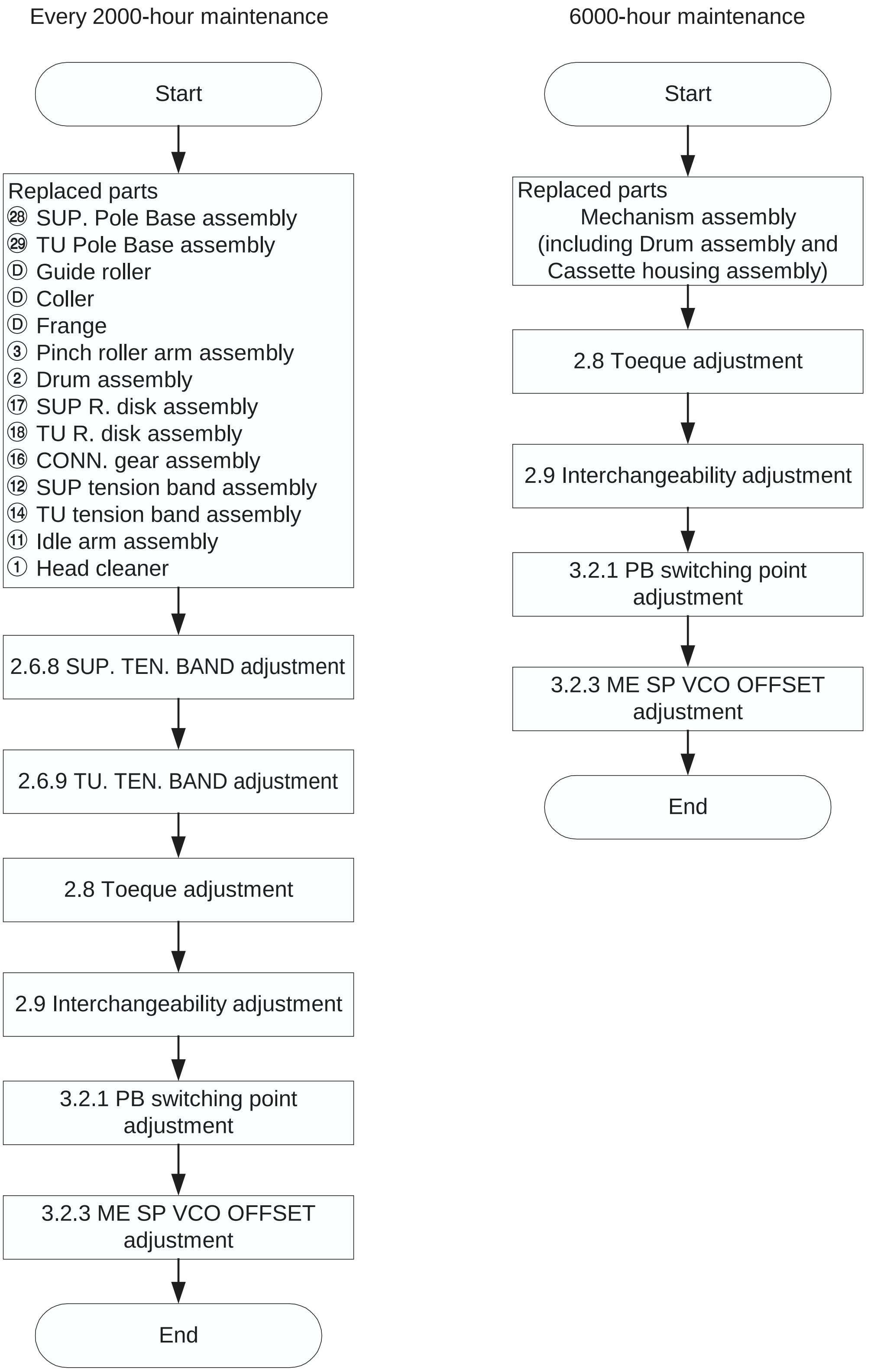

Every 2000-hour maintenance
Start
Replaced parts
㉘ SUP. Pole Base assembly
㉙ TU Pole Base assembly
Ⓓ Guide roller
Ⓓ Coller
Ⓓ Frange
③ Pinch roller arm assembly
② Drum assembly
⑰ SUP R. disk assembly
⑱ TU R. disk assembly
⑯ CONN. gear assembly
⑫ SUP tension band assembly
⑭ TU tension band assembly
⑪ Idle arm assembly
① Head cleaner
2.6.8 SUP. TEN. BAND adjustment
2.6.9 TU. TEN. BAND adjustment
2.8 Toeque adjustment
2.9 Interchangeability adjustment
3.2.1 PB switching point adjustment
3.2.3 ME SP VCO OFFSET adjustment
End
6000-hour maintenance
Start
Replaced parts
Mechanism assembly (including Drum assembly and Cassette housing assembly)
2.8 Toeque adjustment
2.9 Interchangeability adjustment
3.2.1 PB switching point adjustment
3.2.3 ME SP VCO OFFSET adjustment
End

Fig. 2.5.1

2.6 REPLACEMENT OF MAJOR PARTS

- The disassembly procedures shown in oder of disassembly. To remove the part, it is necessary to have completed all the stages before it.
- Always use a torque driver and the specified securing torque to tighten screws.
- Position the mechanism to the unloading end (No Cassette) mode before disassembly or assembly unless otherwise specified.

1

Ⓑ Cassette housing assembly

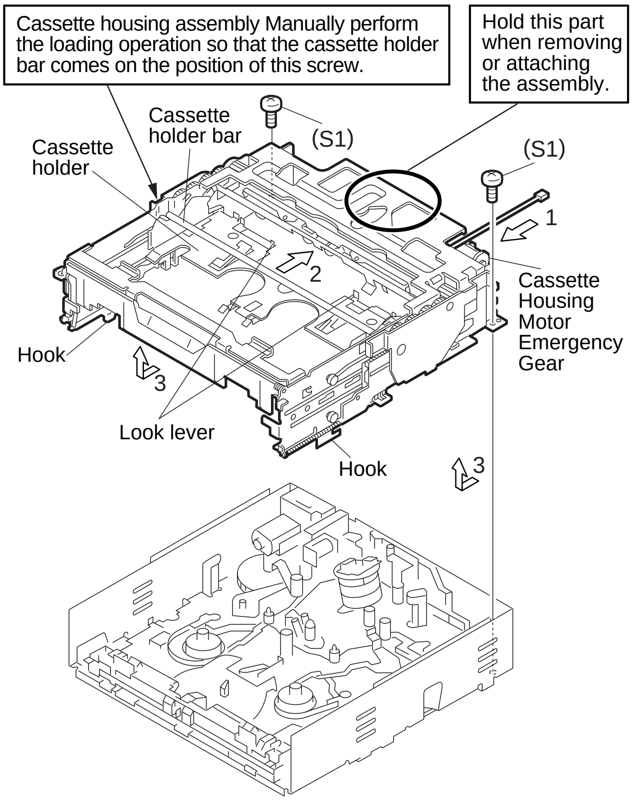

Cassette housing assembly Manually perform the loading operation so that the cassette holder bar comes on the position of this screw.
Hold this part when removing or attaching the assembly.
Cassette holder bar
Cassette holder
(S1)
(S1)
1
2
Cassette Housing Motor Emergency Gear
Hook
3
Look lever
Hook
3

Fig. 2.6.1

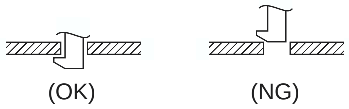
<Disassembly>

1) Turn the cassette housing motor emergency gear in the direction of the arrow, while pushing the lock lever in the direction of arrow 2, then move the cassette holder so that the cassette holder bar comes in the position shown in the illustration.
2) Remove two screws (S1), slide the cassette housing toward the front and remove it by releasing the lock on the Hook function as shown by arrow 3.

<Assembly>

1) Reverse the disassembly procedure.
2) Screws (S1) should be tightened using a securing torque of 0.2 N/m (2 kgf/cm).

Note:
Be sure to attach the cassette housing in the same position as when it was removed.



Hook function of the Cassette hausing.

2

① Head cleaner assembly/ ② Drum assembly

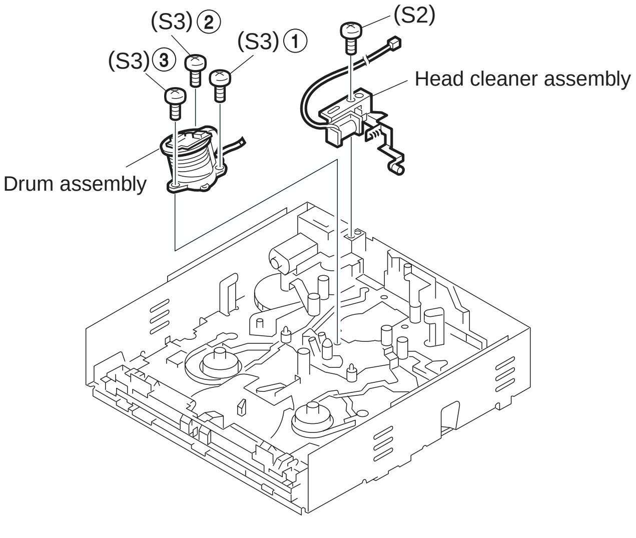

(S3)②
(S3)①
(S3)③
(S2)
Head cleaner assembly
Drum assembly

Fig. 2.6.2

<Disassembly>

Head cleaner assembly:

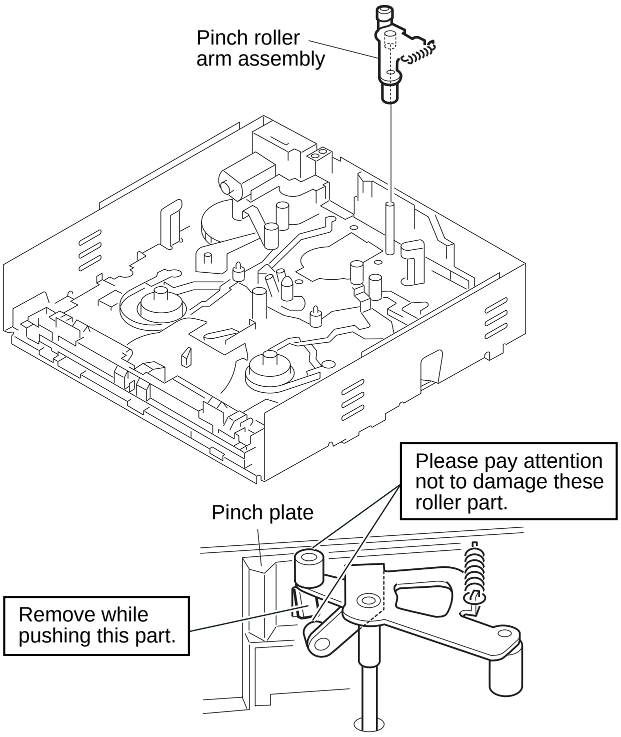
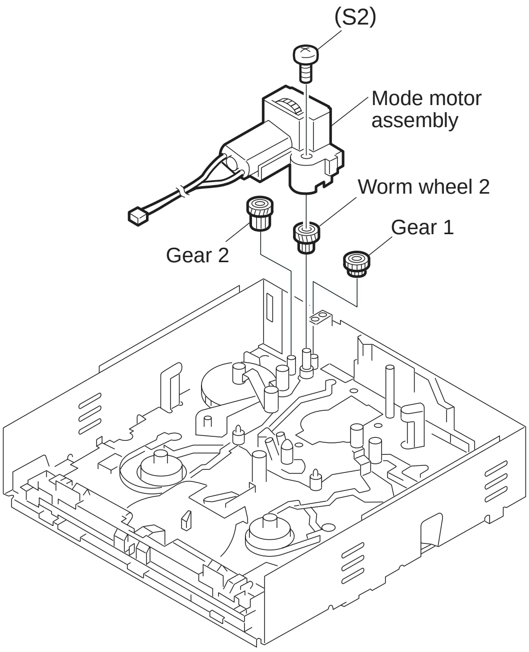
1) Remove the screw (S2) and remove the head cleaner assembly.

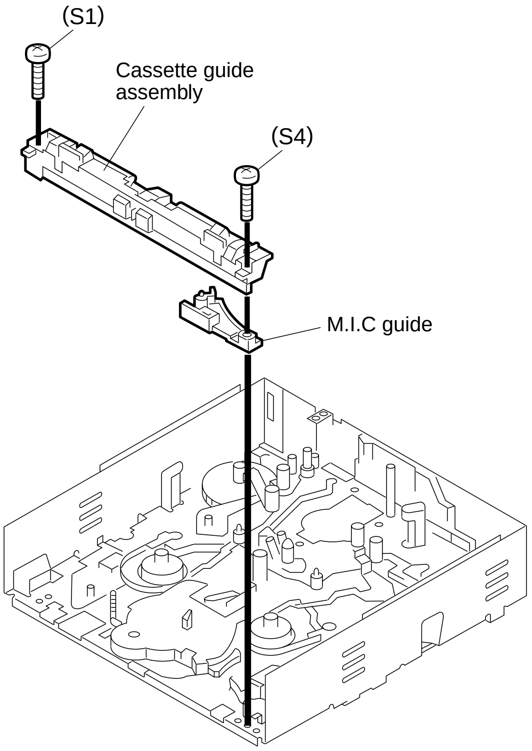
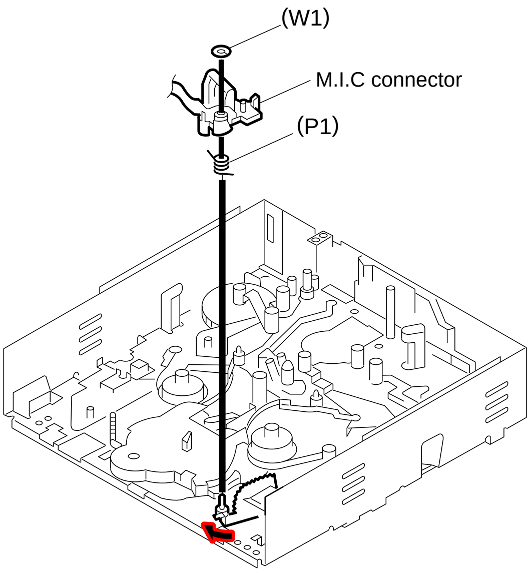
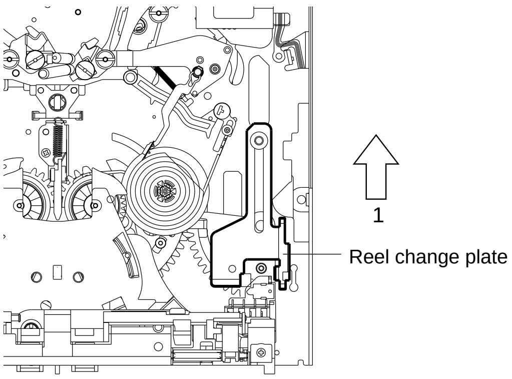
Drum assembly:

1) Remove the Drum FPC from the DV/CPU circuit board CN107.
2) Remove the screw (S3) and remove the drum assembly.

<Assembly>

1) Reverse the disassembly procedure.
2) Drum section screws (S3) should be tightened in order of ① — ③ and using a securing torque of 0.04 N/m (0.4 kgf/cm).

No.	Item	Ref. Illustration	Procedure
3	③ **Pinch roller arm assembly**	 Pinch roller arm assembly Please pay attention not to damage these roller part. Pinch plate Remove while pushing this part. **Fig. 2.6.3**	**<Disassembly>** 1) While pushing the hook on the pinch plate, lift the pinch roller arm assembly upward to remove. **<Assembly>** 1) Reverse the disassembly procedure.
4	④ **Mode motor assembly/** ⑤ **Worm wheel 2/** ⑥ **Gear 1/** ⑦ **Gear 2**	 (S2) Mode motor assembly Worm wheel 2 Gear 1 Gear 2 **Fig. 2.6.4**	**<Disassembly>** **Mode motor assembly:** 1) Remove the screw (S2) and remove the mode motor assembly. **Worm wheel 2 & gears 1 and 2:** 1) Lift the worm wheel 2 upward to remove. 2) Lift the gear 1 upward to remove. 3) Lift the gear 2 upward to remove. **<Assembly>** 1) Reverse the disassembly procedure. **Note:** **Worm wheel 2 and gears 1 and 2 do not require the mechanism phase adjustment.**

No.	Item	Ref. Illustration	Procedure
5	**Cassette guide assembly/ M.I.C guide**	 (S1) Cassette guide assembly (S4) M.I.C guide **Fig. 2.6.5**	**<Disassembly>** **Cassette guide assembly:** 1)Remove the screws (S1) (S4) and remove the cassette guide assembly. **M.I.C guide:** 1)While pushing the hook on the M.I.C guide, lift it upward to remove. **<Assembly>** 1)Reverse the disassembly procedure.
6	⑩ **M.I.C connector**	 (W1) M.I.C connector (P1) **Fig. 2.6.6 (1)**	**<Disassembly>** 1)Slide the reel change plate in the direction of arrow 1 to place the reel in the mini-cassette position. 2)Remove the slit washer (W1) and remove the M.I.C connector. 3)Remove the spring (P1). **<Assembly>** 1)Reverse the disassembly procedure.  1 Reel change plate **Fig. 2.6.6 (2)**

7 ⑪ **Idler arm assembly**

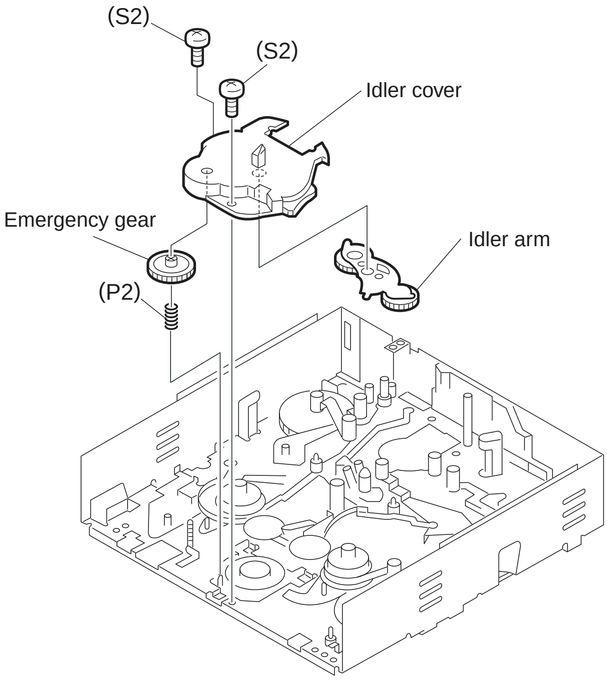


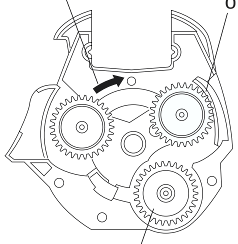
Fig. 2.6.7

<Disassembly>

1) Remove the two screws (S2) and remove the idler cover.
2) Remove the idler arm.
3) Remove the emergency gear.
4) Remove the spring (P2).

<Assembly>

1) Attach the Idler arm and the Emergency gear into the Idler cover.

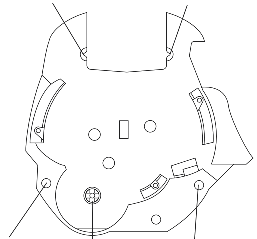


② Rotate the Idler arm to the clockwise direction. (Check the Idler arm moves smoothly.)

① Insert a point of the Idler arm

③ Install the Emergency gear into the Idler cover and push it lightly.

2) Attach the Idler arm assembly onto the Main deck.



④ Hook to the shaft of the Main deck.

① Hook to the shaft of the Main deck.

⑤ Fit to the boss of the Main deck.

② Fit to the boss of the Main deck.

③ Rotate the Emergency gear with screw drive then fit the gear of the Idler arm and the Reel Motor gear.

Caution : When install the Idler arm assembly into the main deck, if the gear of the Idler arm and Reel Motor gear does not fit, these geare may damaged.

8

⑫ Supply tension band assembly/ Supply tension arm assembly

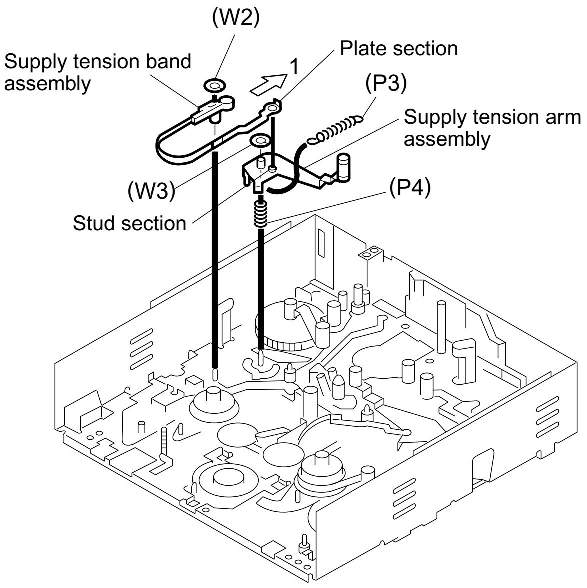

(W2)
Supply tension band assembly
1
Plate section
(P3)
Supply tension arm assembly
(W3)
(P4)
Stud section

Fig. 2.6.8 (1)

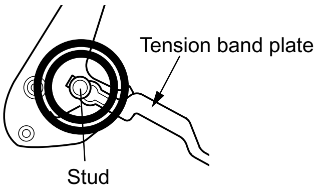

Tension band plate
Stud

Fig. 2.6.8 (2)

<Disassembly>

Supply tension band assembly:

1) Remove the slit washer (W2).
2) Slide the tension band plate in the direction of arrow 1 and remove the plate from the tension arm stud section.

Supply tension arm assembly:

1) Remove the slit washer (W3) and remove the supply tension arm assembly.
2) Unhook the spring (P3) from the tension control arm. (See Fig. 2.6.8 (3))
3) Remove the spring (P4).

<Assembly>

1) Reverse the disassembly procedure.

Notes:

- **Pinch the tension band plate and tension arm stud together and fix them. Be careful not to bend the plate during the above. (See ◎ in Fig. 2.6.8 (2))**
- **The supply tension arm assembly has undergone perpendicularity management after being assembled, so when replacement is required, it will be necessary to replace the entire mechanism assembly.**

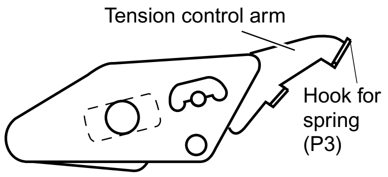

Tension control arm
Hook for spring (P3)

Fig. 2.6.8 (3)

<Supply tension band position adjustment>

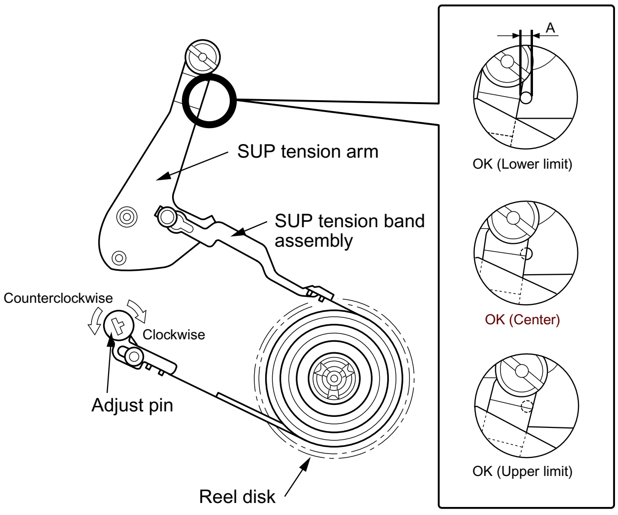

A
SUP tension arm
SUP tension band assembly
Counterclockwise
Clockwise
Adjust pin
Reel disk
OK (Lower limit)
OK (Center)
OK (Upper limit)

Fig. 2.6.8 (4)

1) With the cassette housing removed, place the reel in the mini-cassette position. (See Fig. 2.6.6 (2))
2) Manually rotate the emergency gear of mode motor counterclockwise (See section 2.2.2, “Mode transition”.) to perform loading untill the loading end position.
3) Confirm that the right edge of the tension arm is placed within the range of reference hole A on the sub-deck.
4) If the right edge is not within the above range, adjust by turning the adjust pin.

Clockwise rotation : to lower limit
Counterclockwise rotation : to upper limit

[Loading end position]

Perform loading until SUP REEL lock and TU REEL lock are completely separated from REEL disks.

9

⑭ Take-up tension band assembly/ Take-up tension arm assembly

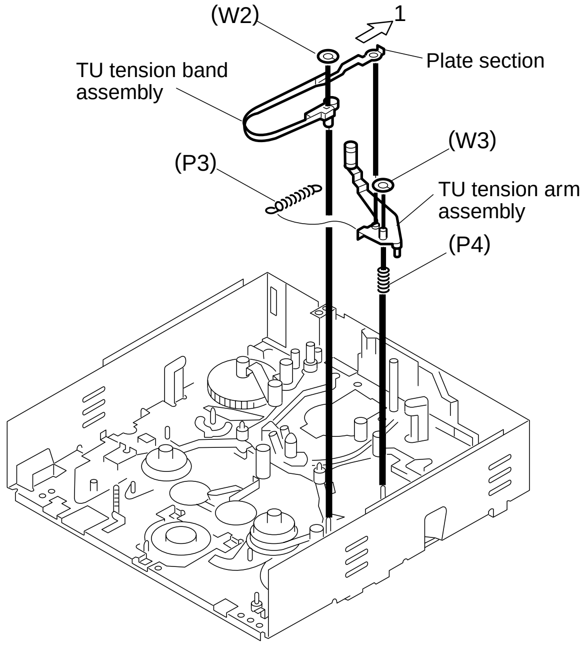

(W2)
1
Plate section
TU tension band assembly
(W3)
(P3)
TU tension arm assembly
(P4)

Fig. 2.6.9 (1)

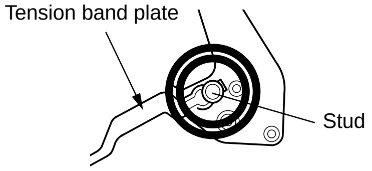

Tension band plate
Stud

Fig. 2.6.9 (2)

<Disassembly>

Take-up tension band assembly:

1) Remove the slit washer (W2).
2) Slide the plate section of tension band in the direction of arrow 1 and remove the plate from the tension arm stud.

Take-up tension arm assembly:

1) Remove the slit washer (W3) and remove the supply tension arm assembly.
2) Unhook the spring (P3) from the tension control arm. (See Fig. 2.6.9 (3))
3) Remove the spring (P4).

<Assembly>

1) Reverse the disassembly procedure.

Notes:

- **Pinch the tension band plate and tension arm stud together and fix them. Be careful not to bend the plate during the above. (See ◎ in Fig. 2.6.8 (2))**
- **The take-up tension arm assembly has undergone perpendicularity management after being assembled, so when replacement is required, it will be necessary to replace the entire mechanism assembly.**

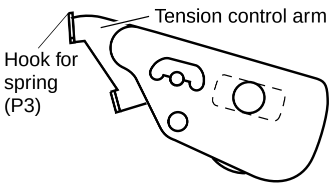

Tension control arm
Hook for spring (P3)

Fig. 2.6.9 (3)

<Take-up tension band position adjustment>

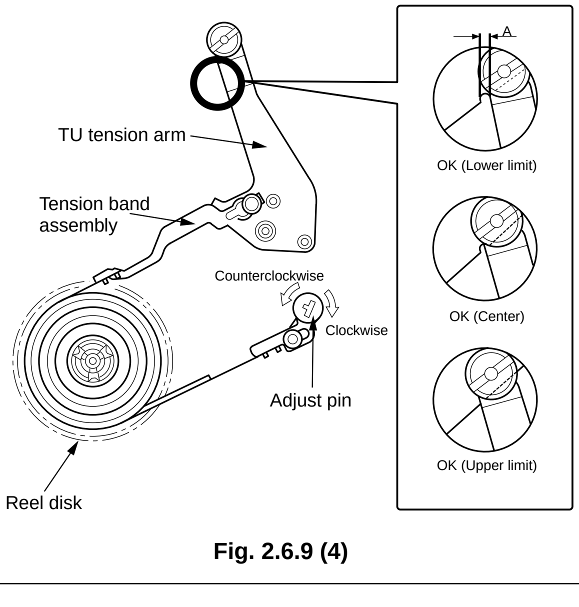

A
OK (Lower limit)
OK (Center)
OK (Upper limit)
TU tension arm
Tension band assembly
Counterclockwise
Clockwise
Adjust pin
Reel disk

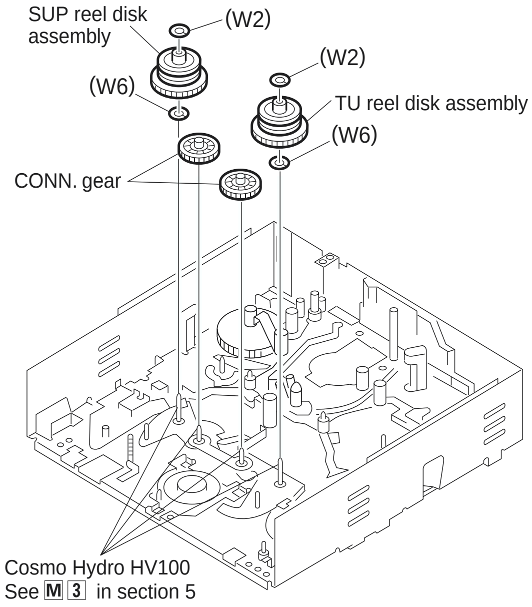
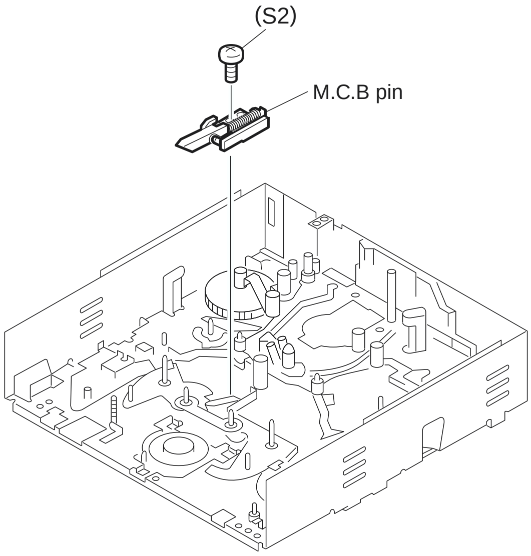
Fig. 2.6.9 (4)

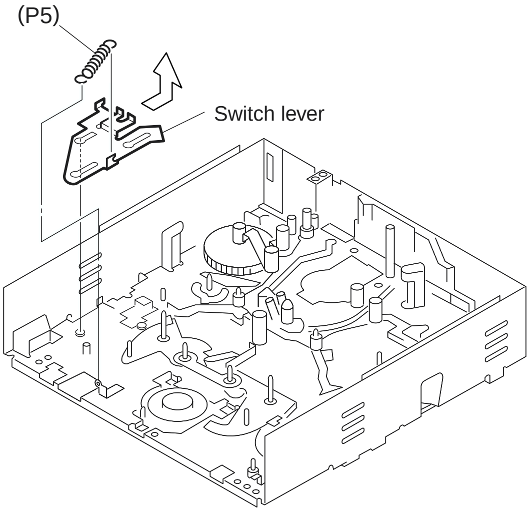
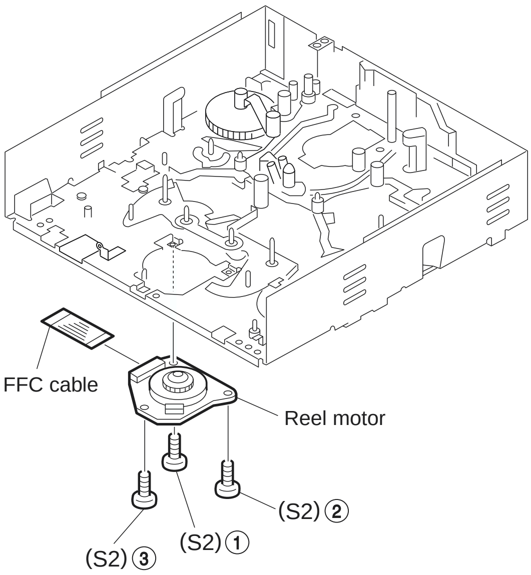
1) With the cassette housing removed, place the reel in the mini-cassette position. (See Fig. 2.6.6 (2))
2) Manually rotate the emergency gear of mode motor counterclockwise (See section 2.2.2, “Mode transition”.) to perform loading untill the loading end position.
3) Canfirm that the left edge of the tension arm is placed within the range of notch A on the sub-deck.
4) If the left edge is not within the above range, adjust by turning the adjust pin.

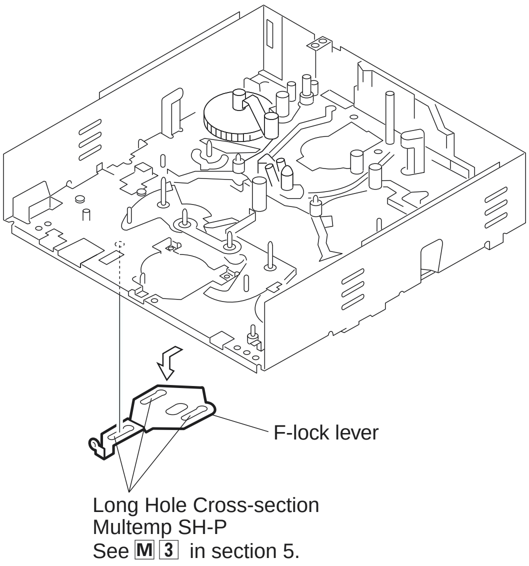
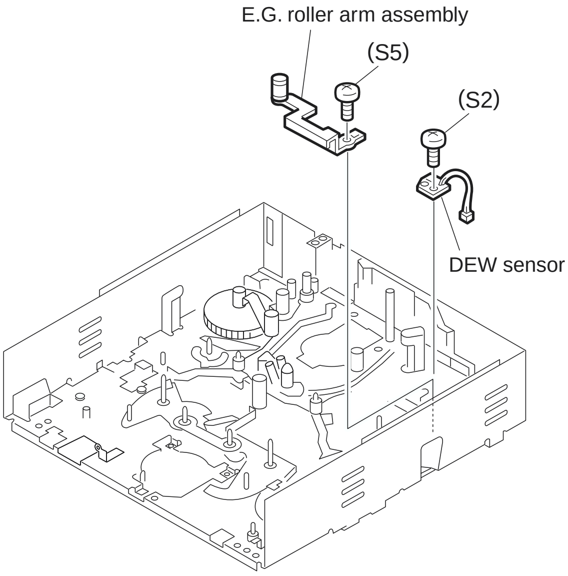
Clockwise rotation : to upper limit
Counterclockwise rotation : to lower limit

[Loading end position]

Perform loading until SUP REEL lock and TU REEL lock are completely separated from REEL disks.

No.	Item	Ref. Illustration	Procedure
10	**⑯ CONN gear assembly/ ⑰ SUP reel disk assembly/ ⑱ TU reel disk assembly**	 SUP reel disk assembly (W2) (W2) (W6) TU reel disk assembly (W6) CONN. gear Cosmo Hydro HV100 See M 3 in section 5 **Fig. 2.6.10**	**<Disassembly>** **CONN. gear assembly** 1) Lift the two CONN gears upward to remove. **SUP and TU reel disk assemblies:** 1) Remove the two slit washers (W2) and lift the SUP and TU reel disk assemblies separately to remove each assembly. 2) Lift the two washers (W6) to remove. **<Assembly>** 1) Reverse the disassembly procedure.
11	**M.C.B pin**	 **Fig. 2.6.11**	**<Disassembly>** 1) Remove the screw (S2) and remove the M.C.B pin. **<Assembly>** 1) Reverse the disassembly procedure.

No.	Item	Ref. Illustration	Procedure
12	**Switch lever**	 **Fig. 2.6.12**	**<Disassembly>** 1) Unhook the spring (P5). 2) Slide the switch lever in the direction of the arrow and then lift it upward to remove. **<Assembly>** 1) Reverse the disassembly procedure.
13	**㉑ Reel motor**	 **Fig. 2.6.13**	**<Disassembly>** 1) Remove the FFC from the mechanism circuit board CN124. 2) Remove the three screws (S2) and remove the reel motor. **<Assembly>** 1) Reverse the disassembly procedure. 2) Tighten the three screws (S2) in the order of ① - ③. **Note:** **Be sure to have the FFC cable installed on the reel motor side before attaching.**

No.	Item	Ref. Illustration	Procedure
14	**F-lock lever**	 F-lock lever Long Hole Cross-section Multemp SH-P See M 3 in section 5. **Fig. 2.6.14**	**<Disassembly>** 1) Slide the F-lock lever in the direction of the arrow to remove. **<Assembly>** 1) Reverse the disassembly procedure.
15	**Dew sensor/ E.G. roller arm assembly**	 E.G. roller arm assembly (S5) (S2) DEW sensor **Fig. 2.6.15**	**<Disassembly>** **Dew sensor:** 1) Remove the screw (S5) and remove the DEW sensor. **E.G. roller arm assembly:** 1) Remove the screw (S2) and remove the E.G. roller arm assembly. **<Assembly>** 1) Reverse the disassembly procedure. **Note:** **The E.G. roller arm assembly has undergone perpendicularity management after being assembled, so when replacement is required, it will be necessary to replace the entire mechanism assembly.**

16 **Sub-deck/ ㉖ Pinch plate/ ㉗ Capstan motor**

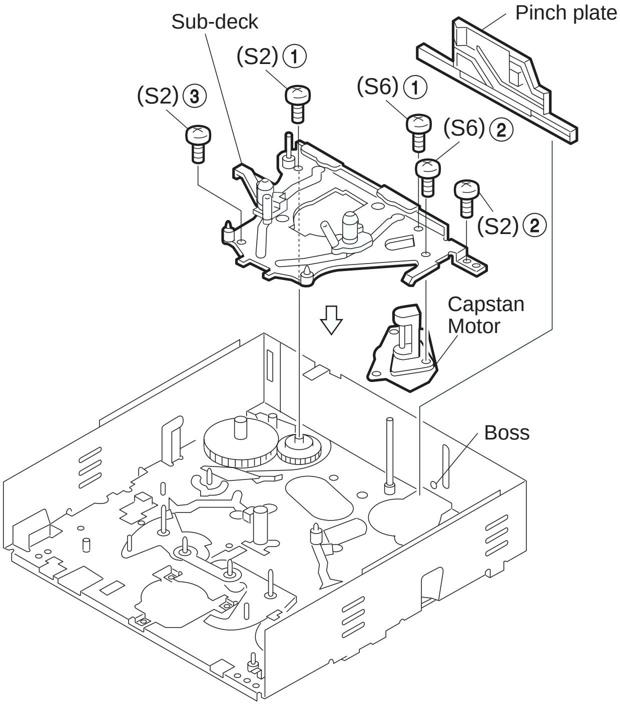

Sub-deck
Pinch plate
(S2) ①
(S2) ③
(S6) ①
(S6) ②
(S2) ②
Capstan Motor
Boss

Fig. 2.6.16 (1)

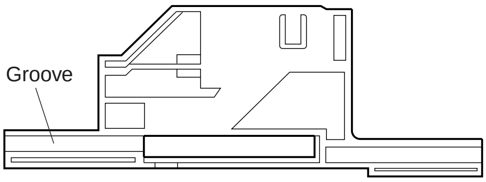


Fig. 2.6.16 (2)

<Disassembly>

Sub-deck/pin plate:

1) Remove the three screws (S2) and slide the sub-deck in the direction of arrow then remove it. The pinch plate also detaches at this time.

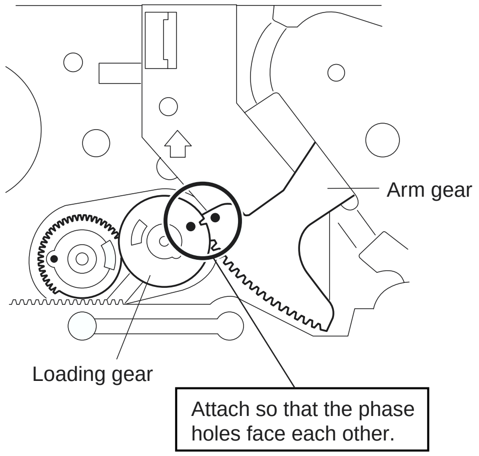
Capstan motor:

1) Remove the two screws (S6) and remove the capstan motor.

<Assembly>

Do this procedure in the unloading end position.

1) Fit the groove on the rear of the pinch plate into the boss on the main deck.
2) Reverse the disassembly procedure.
3) Attach the loading gear and arm gear so that the phase relationship between them is as shown in the figure.


Arm gear
Loading gear
Attach so that the phase holes face each other.

— Unloading End Position —

Notes:

- **Tighten the screws (S2) of the sub deck in the order of ① - ③.**
- **The sub deck assembly has undergone perpendicularity management after being assembled, so when replacement is required, it will be necessary to replace the entire mechanism assembly.**
- **Capstan motor screws (S6) should be tightened in the order of ① - ② and using a securing torque of 0.20 N·m (2 kgf·cm).**

17 **㉘ Supply pole base assembly/ ㉙ Take-up pole base assembly**

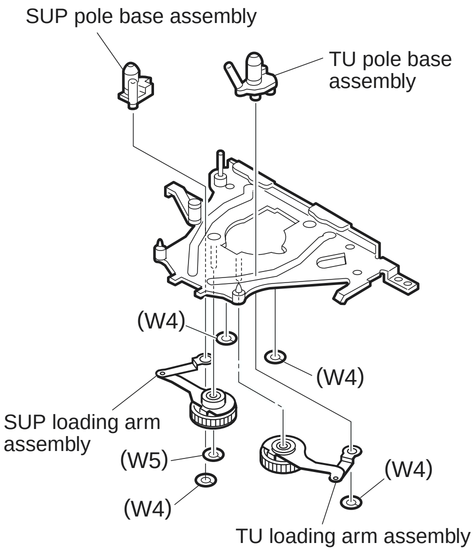

SUP pole base assembly
TU pole base assembly
(W4)
(W4)
SUP loading arm assembly
(W5)
(W4)
(W4)
TU loading arm assembly

Fig. 2.6.17

<Disassembly>

Do this procedure in the loading end position.

Supply pole base assembly:

1) Remove the two slit washers (W4) and remove the supply pole base assembly.

Take-up pole base assembly:

1) Remove the two slit washers (W4) and remove the take-up pole base assembly.

<Assembly>

1) Reverse the disassembly procedure.

18 **Supply loading arm assembly/ Take-up loading arm assembly**

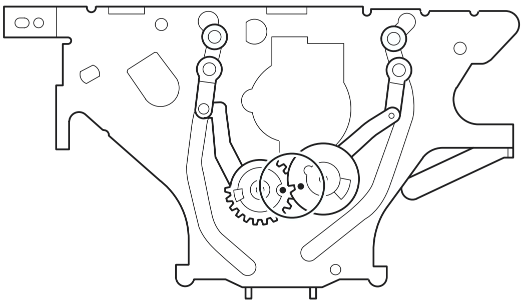


Fig. 2.6.18 Sub Deck Bottom Side

<Disassembly>

Do this procedure in the loading end position.

Take-up loading arm assembly:

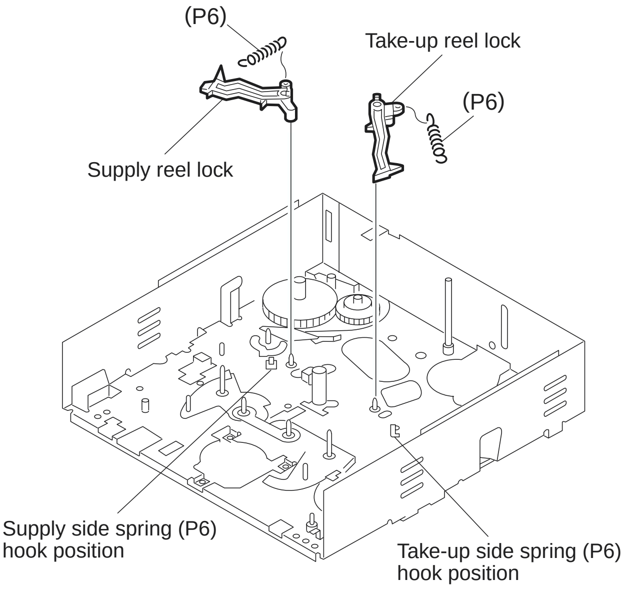
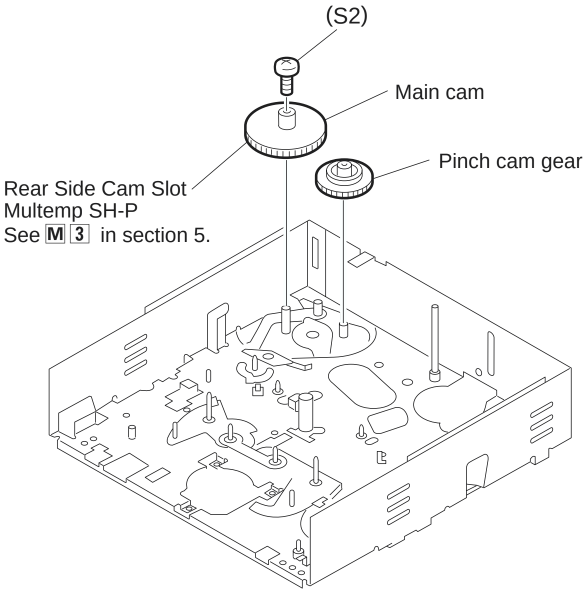
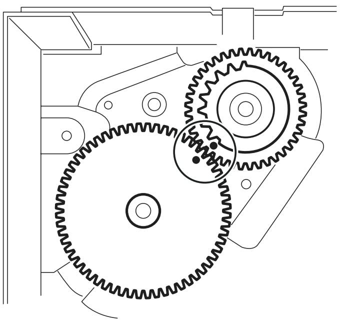
1) Remove the slit washer (W5) and remove the take-up loading arm assembly.

Supply loading arm assembly:

1) After removing the take-up loading arm assembly, remove the supply loading arm assembly.

<Assembly>

1) Reverse the disassembly procedure.
2) Attach so that the gear holes on the assemblies face each other.

No.	Item	Ref. Illustration	Procedure
19	**Supply reel lock/ Take-up reel lock**	 (P6) Take-up reel lock (P6) Supply reel lock Supply side spring (P6) hook position Take-up side spring (P6) hook position **Fig. 2.6.19**	**<Disassembly>** **Supply reel lock:** 1) Unhook the spring (P6) and lift the supply reel lock upward to remove. **Take-up reel lock:** 1) Unhook the spring (P6) and lift the take-up reel lock upward to remove. **<Assembly>** 1) Reverse the disassembly procedure.
20	**㉞ Pinch cam gear/ ㉟ Main cam**	 (S2) Main cam Pinch cam gear Rear Side Cam Slot Multemp SH-P See M 3 in section 5. **Fig. 2.6.20 (1)**	**<Disassembly>** **Pinch cam gear:** 1) Lift the pinch cam gear upward to remove. **Main cam:** 1) Remove the screw (S2) and remove the main cam. **<Assembly>** 1) Reverse the disassembly procedure. 2) Attach the main cam and pinch cam gear so that their phase relationship is as shown in the figure.  **Fig. 2.6.20 (2)**

No.	Item	Ref. Illustration	Procedure

21 **㊱ Arm gear/ ㊲ Control arm**

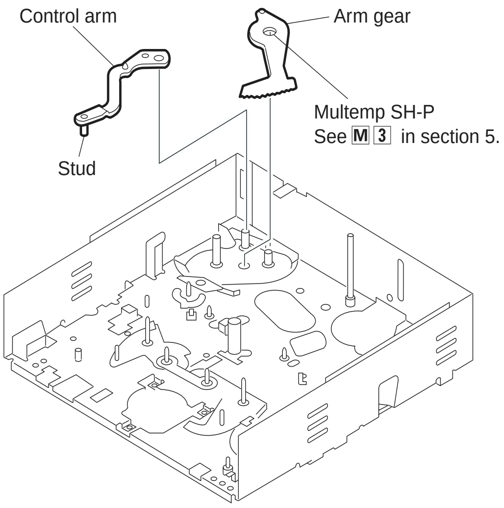

Control arm
Arm gear
Multemp SH-P
See M 3 in section 5.
Stud

Fig. 2.6.21 (1)

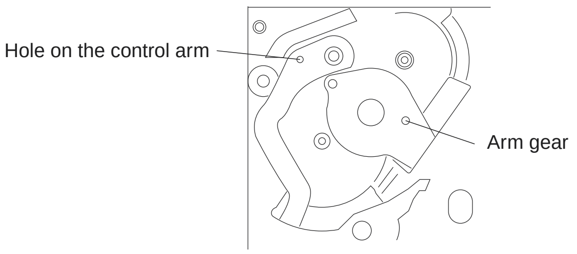

Hole on the control arm
Arm gear

Fig. 2.6.21 (3)

<Disassembly>

Arm gear:

1) Remove the main cam as described in No. 20 and remove the arm gear.

Control arm:

1) Place the main deck upside down.
2) Bend the control plate slightly, disengage the control arm's stud from the groove on the plate and remove the control arm. (Refer to Fig. 2.6.21(2))

<Assembly>

1) Reverse the disassembly procedure.
2) Align the hole on the control arm withy that on the main deck.
3) Align the hole on the arm gear with that on the main deck.

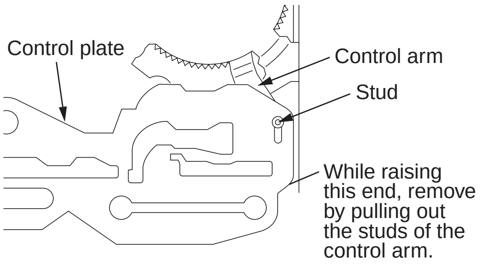

Control plate
Control arm
Stud
While raising this end, remove by pulling out the studs of the control arm.

Fig. 2.6.21 (2)

22 **㊳ Control plate/ Mode sensor gear**

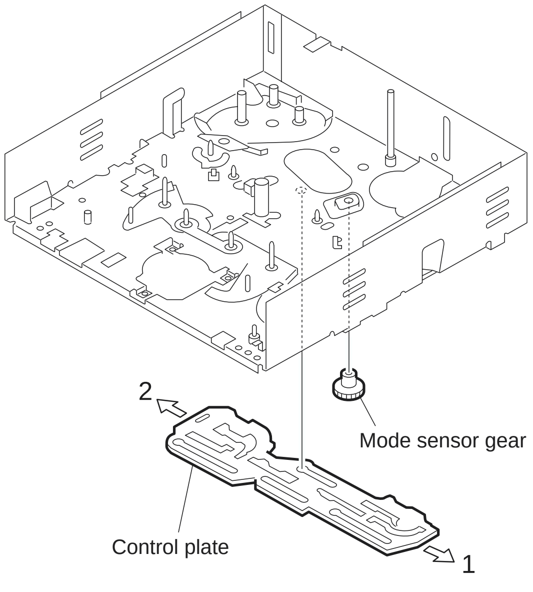

2
Mode sensor gear
Control plate
1

Fig. 2.6.22 (1)

<Disassembly>

Control plate:

1) Place the main deck upside down.
2) Slide the control plate in the direction of the arrow 1 to remove.

Mode sensor gear:

1) Remove the mode sensor gear as if pulling it out.

<Assembly>

1) Attach the control plate.
2) Slide the control plate in the direction of the arrow 2.
3) Attach the mode sensor gear so that the hole on it is aligned with that on the control plate.

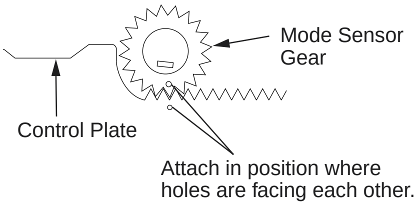
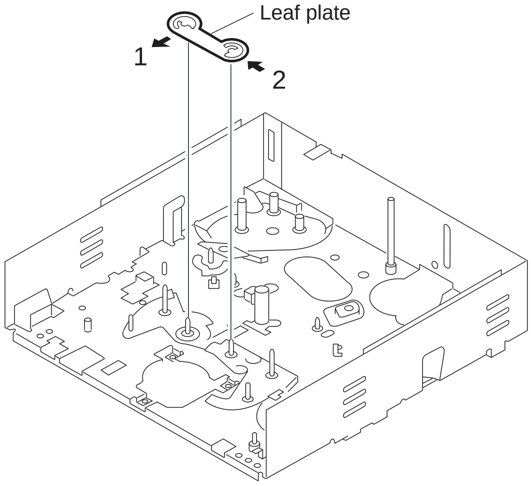
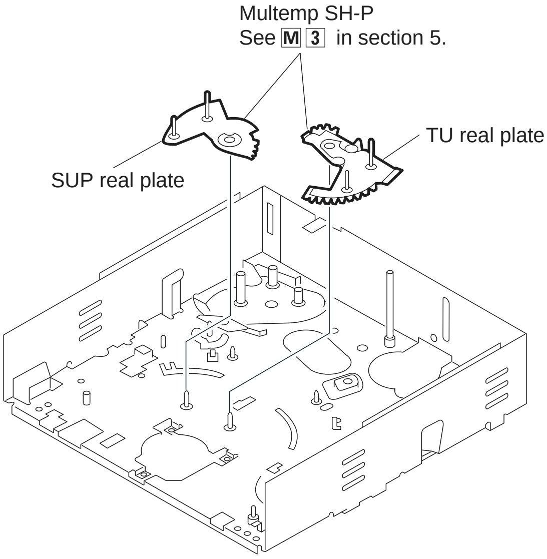
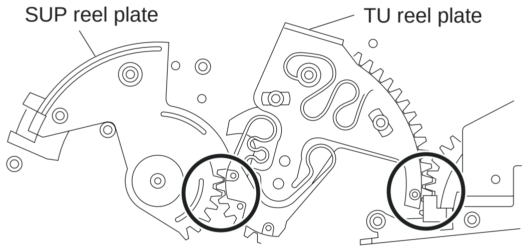
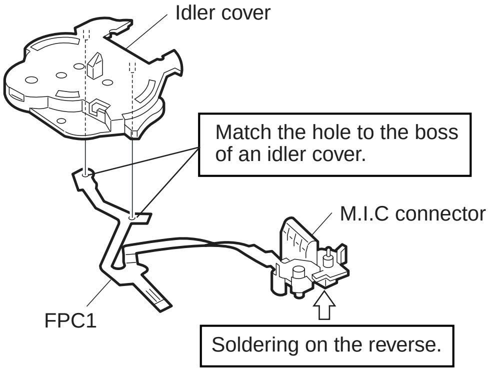
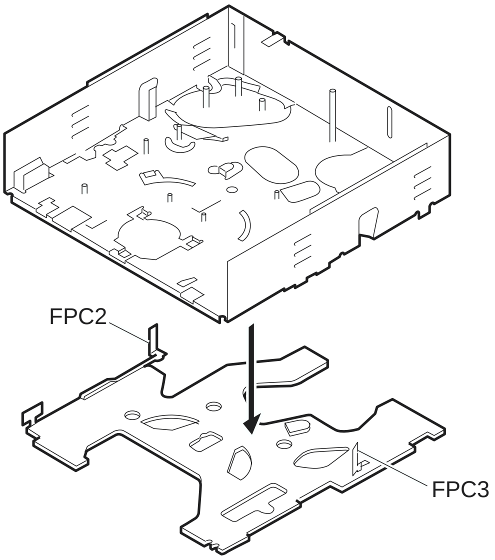
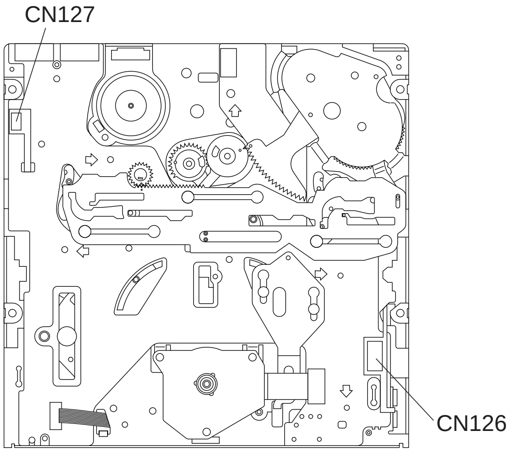

Mode Sensor Gear
Control Plate
Attach in position where holes are facing each other.

Fig. 2.6.22 (2)

No.	Item	Ref. Illustration	Procedure
23	**Leaf plate**	 **Fig. 2.6.23**	**<Disassembly>** 1) Push the supply side of the leaf plate in the direction of arrow 1 to release the lock. 2) Push the take-up side of the leaf plate in the direction of arrow 2 to release the lock. Now the leaf plate can be removed. **<Assembly>** 1) Reverse the disassembly procedure. **Note:** **Be careful not to deform the leaf plate during removing or attaching.**
24	**㊶ Supply reel plate/ ㊷ Tale-up reel plate**	 Multemp SH-P See M 3 in section 5. TU real plate SUP real plate **Fig. 2.6.24 (1)**	**<Disassembly>** **Supply reel plate:** 1) Slide the reel change plate toward the mini-cassette position. (Stop sliding before it is locked completely.) (See Fig. 2.6.6 (2)) 2) Lift the right side of the supply reel plate (gear side) and turn it slightly to remove. **Take-up reel plate:** 1) Lift the left side of the take-up reel plate and turn it slightly to remove. **<Assembly>** 1) Reverse the disassembly procedure. **Notes:** **Take-up reel plate attaching position** Attach the take-up reel plate so that the gear cogs on its inner right side are meshed with those on the left end of the reel plate drive gear. **Supply reel plate attaching position** Attach the supply reel plate so that the gear cogs on its inner right side are meshed with those on the left end of the supply reel plate.  **Fig. 2.6.24 (2)**

No.	Item	Ref. Illustration	Procedure
25	**㊸ FPC1 assembly**	 Idler cover Match the hole to the boss of an idler cover. M.I.C connector FPC1 Soldering on the reverse. **Fig. 2.6.25**	**<Disassembly>** 1) Remove the M.I.C connector and idler arm assembly as described in section 2.6.7. 2) Remove solder from the M.I.C connector (6 positions). 3) Remove the FPC1 assembly by performing the same operation as peeling adhesive tape off for the idler cover section. **<Assembly>** 1) Reverse the disassembly procedure. **Note:** **Do not reuse the removed FPC1 assembly.**
26	**FPC2 assembly/ FPC3 assembly**	 **Fig. 2.6.26 (1)**	**<Disassembly>** **FPC2 assembly:** 1) Remove solder from CN126 on the mechanism board. 2) Remove the FPC2 assembly as if peeling adhesive tape off. **FPC3 assembly:** 1) Remove solder from CN127 on the mechanism board. 2) Remove the FPC3 assembly as if peeling adhesive tape off. **<Assembly>** 1) Reverse the disassembly procedure. **Note:** **Do not reuse the removed FPC1 and FPC2 assemblies.**  CN127 CN126 **Fig. 2.6.26 (2)**

No.	Item	Ref. Illustration	Procedure

27 **Cassette LED/ LED holder/ MECHA board assembly**

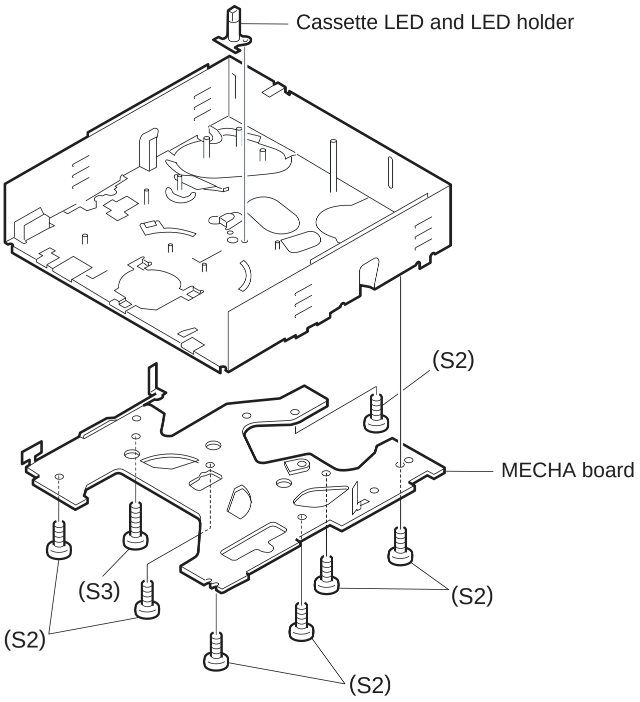

Cassette LED and LED holder
(S2)
MECHA board
(S3)
(S2)
(S2)
(S2)

Fig. 2.6.27 (1)

<Disassembly>

Cassette LED:

1) Remove solder from LD1 on the mechanism board and remove the cassette LED.

LED holder:

1) While pushing the three claws locking the LED holder, remove it.

MECHA board assembly:

1) Remove the seven screws (S2) and a screw (S3), then remove the MECHA board assembly.

<Assembly>

1) Reverse the disassembly procedure.
2) Tighten the eight screws of the mechanism board assembly in the order shown in the illustration.

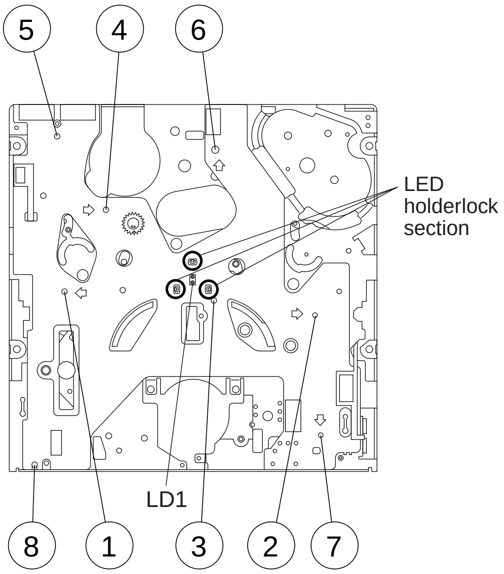

5
4
6
LED holderlock section
LD1
8
1
3
2
7

Fig. 2.6.27 (2) — Mechanism unit bottom side —

Note:
Makce sure the three claws locking of the LCD holder does not loosen.

2.7 GUIDE ROLLER REPLACEMENT METHOD

Since the SUP/TU tension arm assembly, sub deck assembly (ENT, G, roller section), and E.G.R. arm, have all undergone perpendicularity management after being assembled respectively, assembly replacement of these is not possible.
For maintenance, only the guide roller can be replaced.

1 Ⓓ **Guide roller replacement procedure for SUP/TU tension arm assembly and ENT.G. roller/E.G. roller arm assembly**

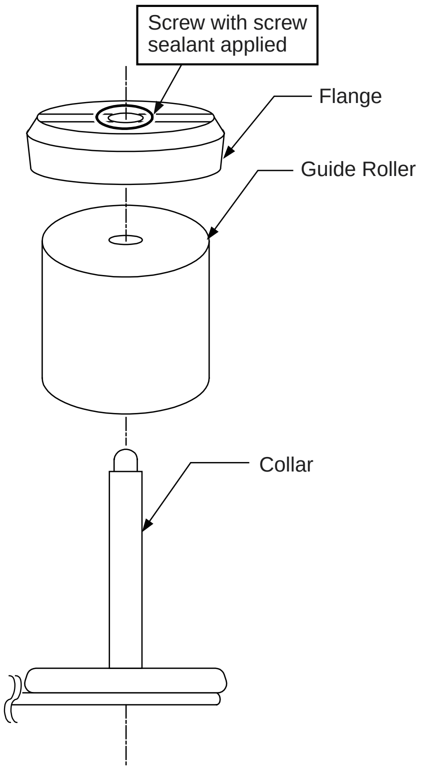


Fig. 2.7.1

<Removing>

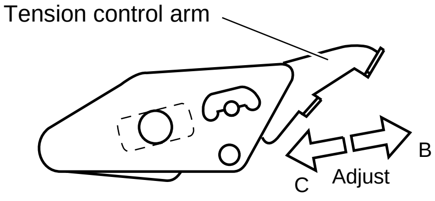
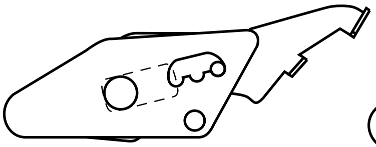
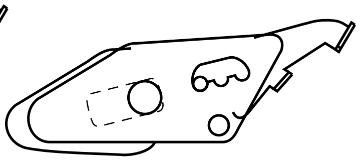
1) Remove the flange on the upper part of the guide roller as you would remove a screw.
2) Pull the guide roller upward and remove it.
3) Pull the collar upward and remove it.

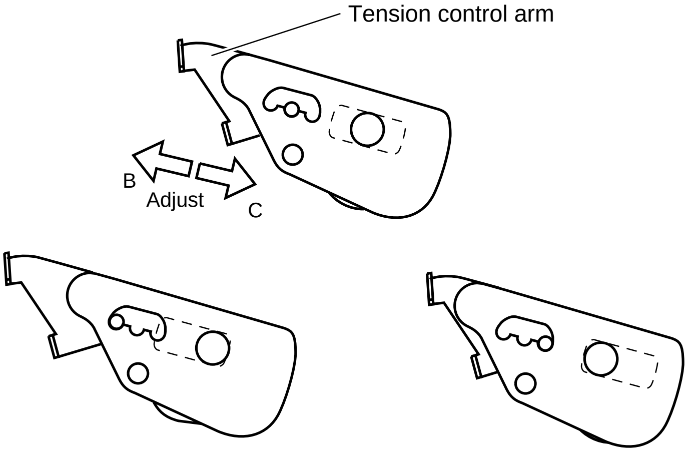
<Installing>

1) Proceed in the reverse order as when removing.
2) When fixing the flange in place, first tighten by hand until it stops, then tighten further using a securing torque of 0.04 N/m (0.4 kgf/cm).
3) After fixing in place, apply screw sealant to the screw on the upper end of the flange.

Note:
When applying additional tightening force, avoid excessive force that may cause distortion of the arm section.

2.8 TORQUE ADJUSTMENT

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
1	Supply back torque adjustment   To increase the torque  To decrease the torque	Cassette torque meter VFK1843	Play	◎ Supply side reading of cassette torque meter ☆ $6.5^{+1.0}_{-0.5} \times 10^{-4}$ N·m	1) Insert the torque cassette meter VFK1843 and press the [PLAY] button. 2) Confirm that the SUP back torque value is within the specified range. (If the reading varies, read the center value.) 3) If the reading is out of specification, eject the cassette and adjust by moving the tension control arm. * To increase the torque →Move in direction B * To decrease the torque → Move in direction C. 4) Perform steps 1) and 2) above again and confirm that the SUP back torque value is within the specified range. If it is out of specification, check the <Supply tension band position adjustment> in 2.6.8 (4).
2	Take-up wind torque adjustment	Cassette torque meter VFK1843	PLAY, Adjustment menu No. 119	◎ Take-up side reading of cassette torque meter ☆ $11.5^{+1.0}_{-0.5} \times 10^{-4}$ N·m	1) Select adjustment menu [119. FWD TORQUE]. **(For the adjustment menu, see 3.1.5, “Adjustment menu”.)** 2) Insert the torque cassette meter VFK1843 and press the [PLAY] button. 3) Adjust the TU wind torque so that it is within the specified range. * Press SET (PAUSE) to enter the adjustment mode. * To increase the torque → Press ▲(PLAY). * To decrease the torque → Press ▼(STOP). 4) After adjustment, press SET (PAUSE) to store the adjustment data.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (↑) Adjustment level (☆)	Adjustment procedure
3	Take-up back torque adjustment  To increase the back torque To decrease the back torque	Cassette torque meter VFK1844	REV x 1	◎ Take-up side reading of cassette torque meter ☆ $6.5^{+1.0}_{-0.5}$ x 10^{-4} N·m	1) Insert the torque cassette meter VFK1844 and enter REV x1 mode. 2) Confirm that the TU back torque value is within the specified range. (If the reading varies, read the center value.) 3) If the reading is out of specification, eject the cassette and adjust by moving the tension control arm. * To increase the torque → Move in direction B * To decrease the torque → Move in direction C. 4) Perform steps 1) and 2) above again and confirm that the TU back torque value is within the specified range. If it is out of specification, check the <Take-up tension band position adjustment> in 2.6.9 (4).
4	SUP wind torque CHECK	Cassette torque meter VFK1844	REV x 1	◎ Supply side reading of cassette torque meter ☆ $11.5^{+1.5}_{-1.0}$ x 10^{-4} N·m	1) Insert the torque cassette meter VFK1844 and enter REV x1 mode. 2) Confirm that the SUP wind torque is within the specified range. If it is out of specification, check the assembly condition of the reel drive parts.

2.9 INTERCHANGEABILITY ADJUSTMENT

2.9.1 Interchangeabilty adjustment flow chart

Fig. 2-9-1 shows the flow chart of compatibility adjustment.

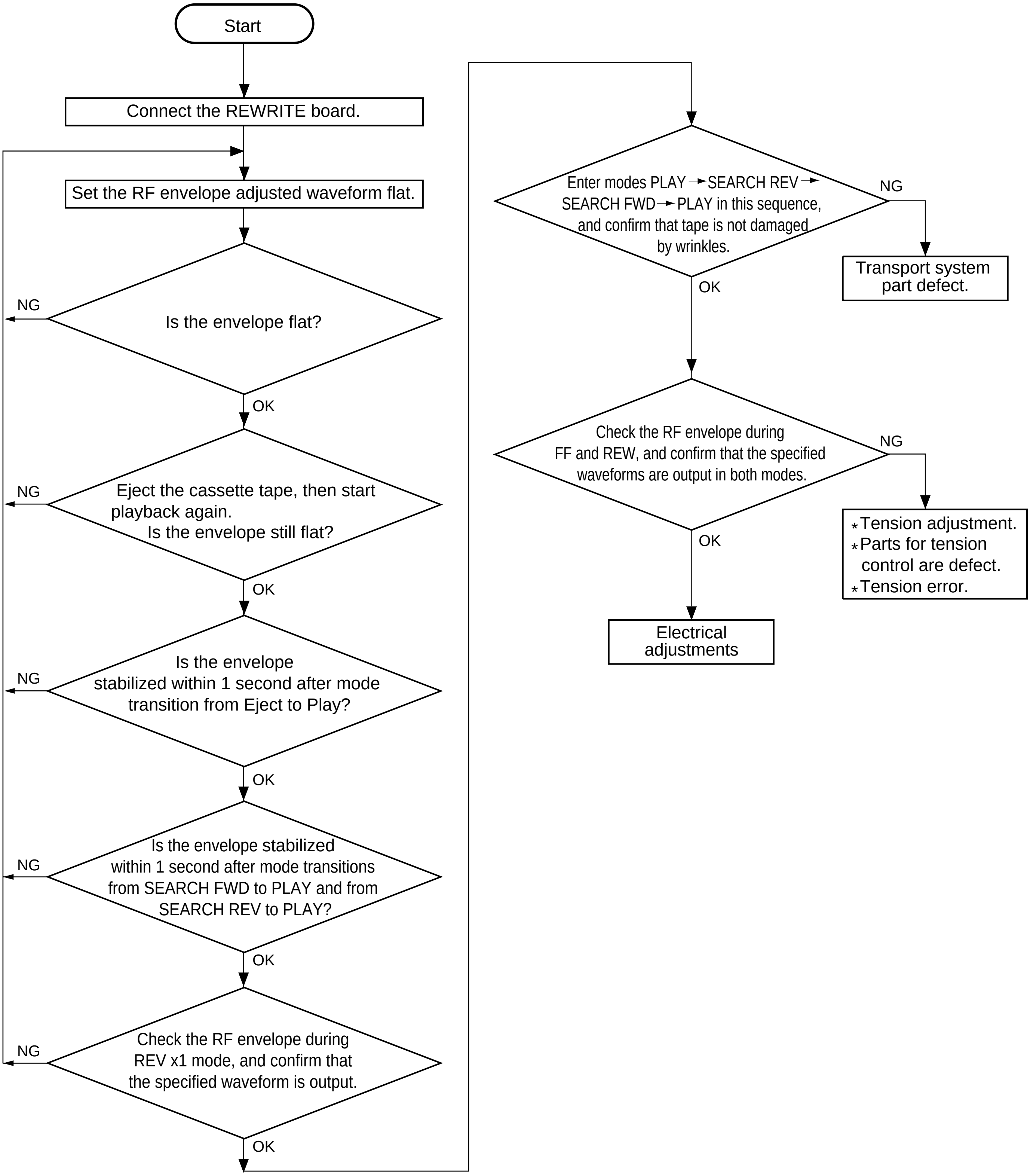
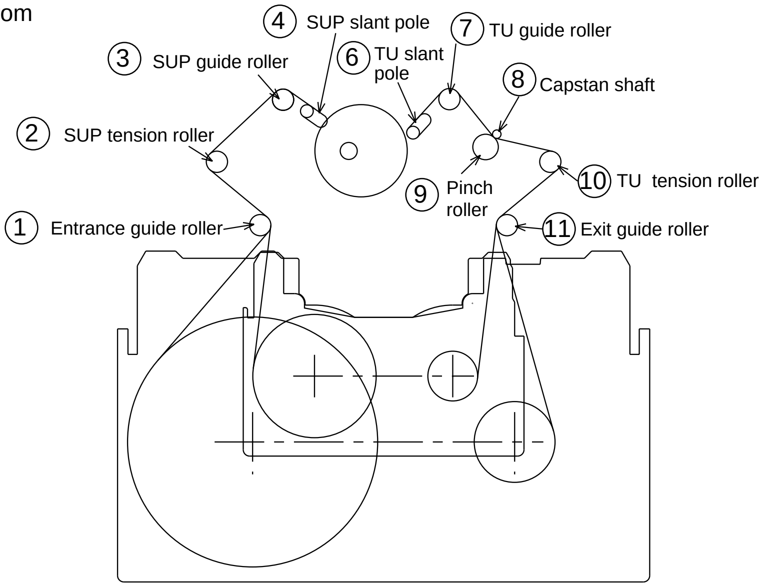

Start
Connect the REWRITE board.
Set the RF envelope adjusted waveform flat.
Is the envelope flat?
NG
OK
Eject the cassette tape, then start playback again. Is the envelope still flat?
NG
OK
Is the envelope stabilized within 1 second after mode transition from Eject to Play?
NG
OK
Is the envelope stabilized within 1 second after mode transitions from SEARCH FWD to PLAY and from SEARCH REV to PLAY?
NG
OK
Check the RF envelope during REV x1 mode, and confirm that the specified waveform is output.
NG
OK
Enter modes PLAY → SEARCH REV → SEARCH FWD → PLAY in this sequence, and confirm that tape is not damaged by wrinkles.
NG
Transport system part defect.
OK
Check the RF envelope during FF and REW, and confirm that the specified waveforms are output in both modes.
NG
*Tension adjustment.
*Parts for tension control are defect.
*Tension error.
OK
Electrical adjustments

Fig. 2-9-1

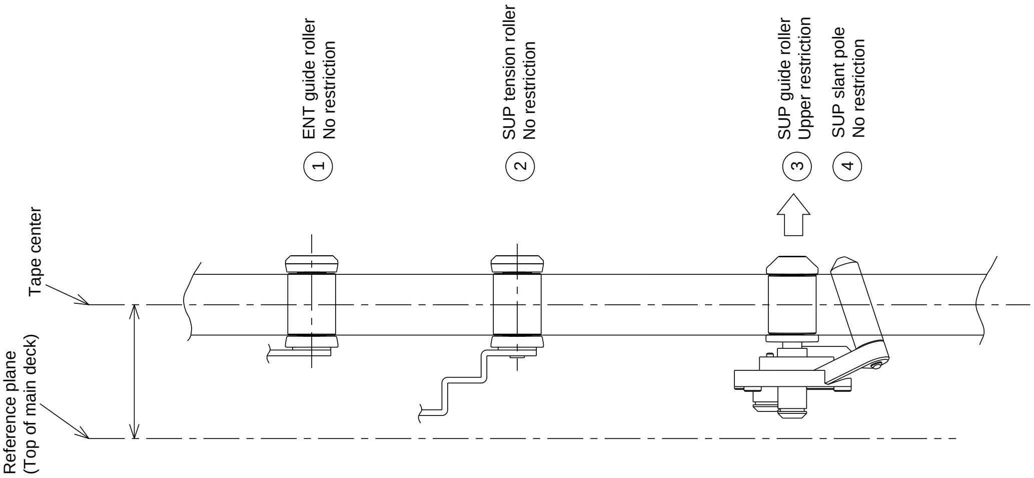
2.9.2 Tape Transport Restriction

The unit uses only the SUP guide roller and TU guide roller to restrict the tape transport. The tape is free (no restriction) from other parts.



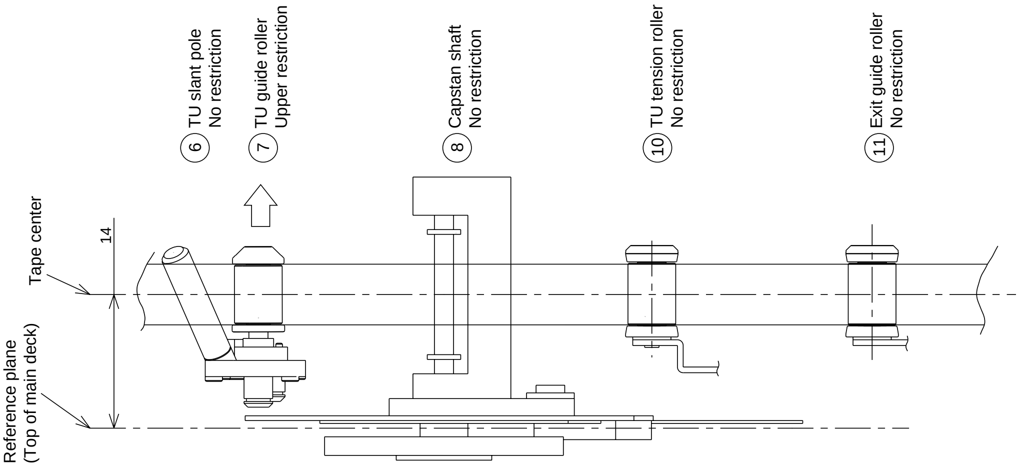
④ SUP slant pole
⑦ TU guide roller
③ SUP guide roller
⑥ TU slant pole
⑧ Capstan shaft
② SUP tension roller
⑩ TU tension roller
⑨ Pinch roller
① Entrance guide roller
⑪ Exit guide roller

Fig. 2.9.2



① ENT guide roller No restriction
② SUP tension roller No restriction
③ SUP guide roller Upper restriction
④ SUP slant pole No restriction
Tape center
Reference plane (Top of main deck)

Fig. 2.9.3 Tape Restriction on Supply Side



⑥ TU slant pole No restriction
⑦ TU guide roller Upper restriction
⑧ Capstan shaft No restriction
⑩ TU tension roller No restriction
⑪ Exit guide roller No restriction
Tape center
14
Reference plane (Top of main deck)

Fig. 2.9.4 Tape Restriction on Take-up Side

2.9.3 Interchangeability adjustment

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
1	Preparation				(1) Connect a REWRITE board to the CN4004 on the MAIN board. Refer to preparation of "3.2 DVC UNITS ADJUSTMENTS" for more details. **Note:** **Be sure to clean the tape transport parts and play a cleaning tape before proceeding to the compatibility adjustment.**
2	RF envelope adjustment	• Oscilloscope, alignment tape VFK1842 Color bar portion	Play	◎ TP9 ENV OUT [REWRITE board] ◎ TP5 HID [REWRITE board] ⇧ Supply guide roller ⇧ Take-up guide roller ☆ Make the waveforms flat. The drop level should be less than 3 dB at both SUP and TU sides. ☆ Flatness and variation should be less than 2 dB.	(1) Play alignment tape color bar portion. (2) Observe the measuring points and adjust the supply guide roller and take-up guide roller so that the RF envelope is flat. (3) Set the mode to EJECT, then set to the PLAY mode and confirm that the RF envelope is flat.

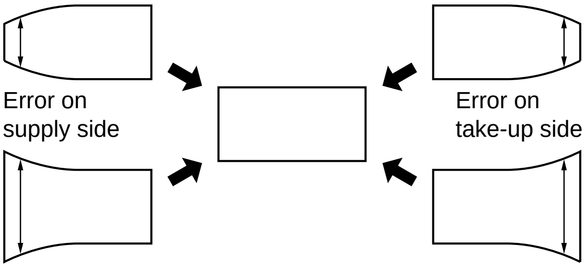


Fig. 2.9.5

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (↑) Adjustment level (☆)	Adjustment procedure
3	Waveform rise check	• Oscilloscope, alignment tape VFK1842 Color bar portion	Eject → Play Search FWD → Play Search REV → Play	◎ TP9 ENV OUT [REWRITE board] ◎ TP5 HID [REWRITE board] ☆ The envelope waveform should be stabilized within 1 sec.	(1) Switch the mode from Eject → Play and confirm that the envelope is stabilized in less than 1 sec. (2) Switch the mode from Search FWD → Play and from Search REV → Play, and confirm that the envelope is stabilized in less than 1 sec. in both cases. (3) If the envelope does not stabilized in the specified period, fine-adjust the supply/take-up guide rollers as far as the envelope waveform specification is satisfied, then restart checking from the above procedure (1) again.
4	Damage check	• Self-recorded/ played tape 60 ME 270ME	Play ↓ Search REV ↓ Search FWD ↓ Play	◎ TP9 ENV OUT [REWRITE board] ◎ TP5 HID [REWRITE board] ☆ The tape should not be damaged by wrinkle.	(1) Transport the self-recorded/played Mini cassette tape from the beginning by changing modes in order of Play → Search REV → Search FWD → Play, and confirm that wrinkles due to strong restriction by the guide rollers and guide pole are not produced on tape. (2) Perform the same check at the section near the end of tape. (3) Confirm that no tape damage occurs when a tape is being loaded, unloaded or ejected. (4) Perform the same procedures (1) — (3) with a standard cassette.
5	Envelope check during FF/REW	• Oscilloscope, alignment tape VFK1842 Color bar portion	FF REW	◎ TP9 ENV OUT [REWRITE board] ◎ TP5 HID [REWRITE board] ☆ A < 55µsec. ☆ B ≧ T/3	**This checking should be done after completing 3-2-1. PB switching point adjustment.** (1) Insert the alignment tape and enter Stop mode. (2) Enter FF mode. (3) Confirm that the envelope output is present at 55 µs before the HID switching timing. (4) Check the take-up side of the envelope to see that the MAX output duration is more than 1/3 the HID duration. (5) Enter REW mode and check the same items as (3) and (4) above. (6) If the envelope is out of specification, check the tension band and main brake assembly and replace if needed. Confirm the playback switching point.

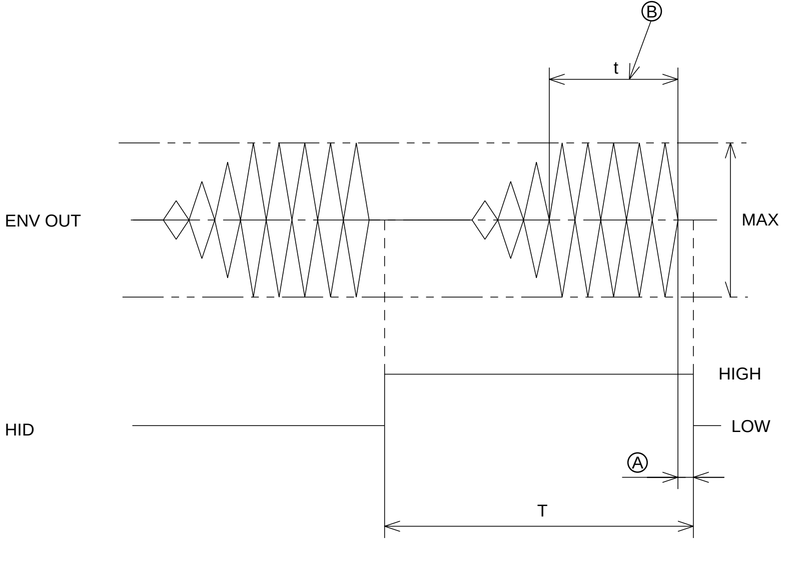


Fig. 2.9.6

SECTION 3

ELECTRICAL ADJUSTMENTS

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  3.1.1 Measuring instruments and Tools required for adjustments....3-1
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SECTION 3
ELECTRICAL ADJUSTMENTS

3.1 PRECAUTIONS FOR ELECTRICAL ADJUSTMENTS

Electrical adjustments should be performed only when they are required, for example, during maintenance. Electrical adjustments that are possible only after mechanism adjustments should be performed after completing these. Before proceeding to perform electrical adjustments, be sure to warm up the unit for at least 10 minutes after turning it on.
Use the 10:1 probe with the oscilloscope unless otherwise specified.

3.1.1 Measuring instruments and Tools required for adjustments

(1) Measuring instruments
- Oscilloscope: 2-trace, 100 MHz or more.
- NTSC/PAL waveform monitor (WFM)
- NTSC/PAL Composite and Y/C video signal generator
- Frequency counter: 10 MHz or more, resolution 100 mV or less.
- Monitor TV

(2) Tools

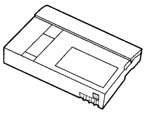
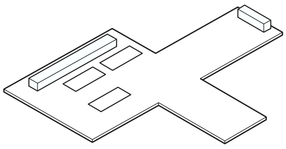
1	Alignment tape
VFK1842	
2	Rewrite board (Jig connector)
VFK1846	

Table 3-1-1

3.1.2 Alignment tape specifications

VFK1842

No.	Video signal	Audio signal	Time (min.)	Applications
1	Moving image	Moving image audio	10	Block noise check
2	Color bars	1 kHz	10	• Interchangeability adjustment • Video/audio play circuit check/adjustment

Table 3-1-2

3.1.3 Signals required for adjustments

NTSC and PAL color bar signals are required on "3.3 VIDEO SYSTEM ADJUTMENT".

NTSC:
100% color bars (100, 0, 100, 0) (Without SETUP)
100% color bars (100, 7.5, 100, 7.5) (With SETUP)
PAL:
100% color bars (100, 0, 100, 0) (PAL does not use SETUP.)

(1) Composite 100% color bars

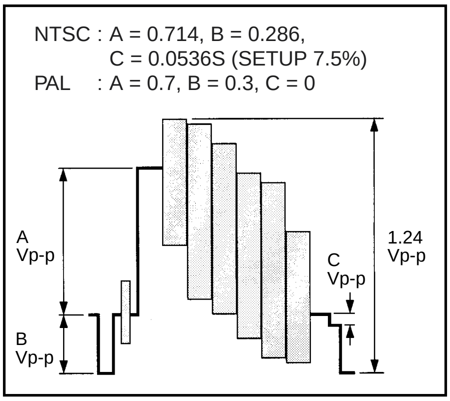

NTSC : A = 0.714, B = 0.286,
C = 0.0536S (SETUP 7.5%)
PAL : A = 0.7, B = 0.3, C = 0
A Vp-p
B Vp-p
C Vp-p
1.24 Vp-p

Fig. 3.1.3 (1)

(2) Y/C 100% color bars

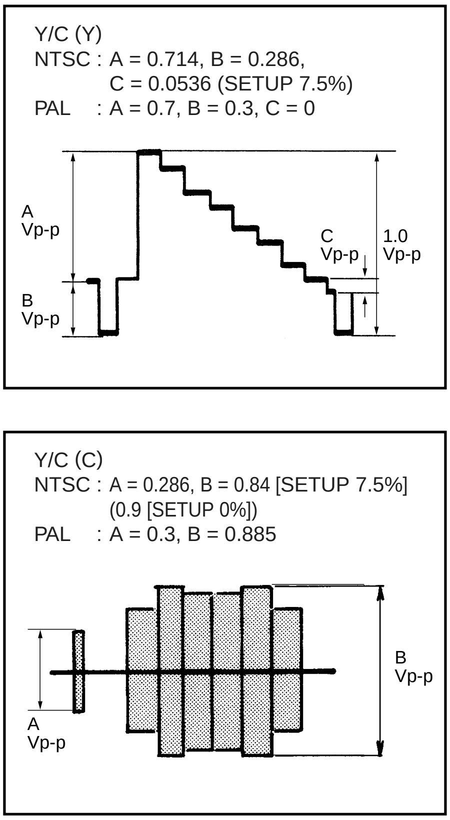

Y/C (Y)
NTSC : A = 0.714, B = 0.286,
C = 0.0536 (SETUP 7.5%)
PAL : A = 0.7, B = 0.3, C = 0
A Vp-p
B Vp-p
C Vp-p
1.0 Vp-p
Y/C (C)
NTSC : A = 0.286, B = 0.84 [SETUP 7.5%]
(0.9 [SETUP 0%])
PAL : A = 0.3, B = 0.885
A Vp-p
B Vp-p

Fig. 3.1.3 (2)

3.1.4 Notes for adjustments

Since the AG-DV2500 is compatible with the recording and playback of the NTSC and PAL signals, it is required that both NTSC and PAL be adjusted.
The NTSC and PAL signals use different Y signal V/S ratios and color levels. Be sure to use the specified signals for the adjustments.

Both the NTSC and PAL signals use a variety of signals differing in the Y levels and color levels, etc. Also note that the NTSC signals include signals both with and without the Setup component.

The AG-DV2500 is provided with input and output level adjustment capabilities only. If a signal of the specified level for color and setup is not available, read the following for the substitution.

(1) Y level adjustments (Both of NTSC and PAL)
If the available Y signal contains a white level of 100 IRE (PAL: 0.7 Vp-p), the signal can be used in the adjustment as described in the given procedure.
If the input signal has the setup, adjust the luminance level from the pedestal to the white peak including the setup.

(2) Setup level adjustment (NTSC only)
The NTSC signal generator usually generates a signal with the Setup component. If it cannot be switched off, follow the alternative adjustment procedure for the signal with Setup, which is provided for each adjustment item.

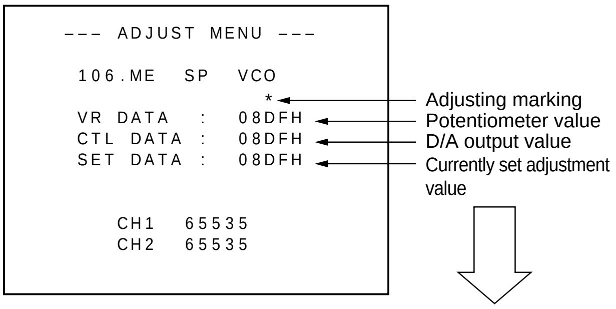
(3) Color level adjustments (Both of NTSC and PAL)
The chroma level is variable depending on whether it is 75% or 100% and on whether the Setup component is present (NTSC only). As a result, a correct adjustment is not possible unless the specified signal is used. If the specified signal is not available, refer to the following.

- Chroma level adjustment
  First measure the input signal what the signal type is (Refer to the table 3.1.4). Then apply the signal (composite or Y/C) to the AG-DV2500 and adjust the output signal level equal to the input type level.
- Burst level adjustment
  The burst level is identical for all signals. There will be no problem if it can be adjusted to NTSC: 0.286 Vp-p (PAL: 0.3 Vp-p). There is no problem whether or not the Setup component is present (NTSC only).

3.1.5 Adjustment menu

(1) Operation method
Use the ADJUST MENU for adjustments. The operating method is as follows.

① Make sure of no cassette in the VTR. While holding the [REW] and [FF] buttons, press the [OPERATE] button to turn the unit on.
② When the unit is turned on, press and hold the [EJECT] button for about 2 seconds until the ADJUST MENU is displayed.
③ Press the ► (FF) or ◄ (REW) button to select adjustment item.
④ Press the [SET] (PAUSE) button so that the "*" marking blinks and, while observing the specified TP, the measuring instrument and others, press the ▲ (PLAY) button or ▼ (STOP) button to adjust the value to the specified value.
(Pressing the [A.DUB] button simultaneously with the ▲ or ▼ button varies the adjustment value by ± 10 steps.)



```
--- ADJUST MENU ---

106.ME   SP   VCO
                *
VR DATA  :    08DFH
CTL DATA :    08DFH
SET DATA :    08DFH


   CH1   65535
   CH2   65535
```

Pressing the [SET] button causes the value being adjusted with the potentiometer to be the adjustment value.

⑤ After completing the adjustment, press the [SET] (PAUSE) button again to turn the "*" marking off and store the adjustment value. (The adjustment value is not stored and moving to the next adjustment item can not be performed unless the [SET] (PAUSE) button is pressed.)
⑥ Press the ► (FF) or ◄ (REW) button to select the next adjustment item.

Notes:
- When the adjustment procedure requires a mode transition to PLAY, etc., use the accessory of wireless remote controller.
- After completing all of the required settings, press [OPERATE] button to turn off the power.
- To return to normal operating status, turn the unit off then on again. If this is not performed, since the unit is turned on in the adjustment mode, pressing the MENU button displays an adjustment menu and it is not possible to display the normal operation menu.

[NTSC]

Type	Y level [mVp-p]	White [mV]	Sync [mV]	Setup [mV]	Burst [mVp-p]	YL/B [mVp-p]	CY/R [mVp-p]	G/MG [mVp-p]
Y 100%, color 100% level, setup 0%	1000	714	286	0	286	640	908	848
Y 100%, color 100% level, setup 7.5%	1000	714	286	53.6	286	592	836	780
Y 100%, color 75% level, setup 0%	1000	714	286	0	286	480	681	636
Y 100%, color 75% level, setup 7.5%	1000	714	286	53.6	286	444	627	585

[PAL]

Type	Y level [mVp-p]	White [mV]	Sync [mV]	Burst [mVp-p]	YL/B [mVp-p]	CY/R [mVp-p]	G/MG [mVp-p]
Y 100%, color 100% level	1000	700	300	300	627	885	827
Y 100%, color 75% level	1000	700	300	300	471	664	620

YL/B: Yellow and Blue level. CY/R: Cyan and Red level. G/MG: Green and Magenta level.

Table 3.1.4

(2) Adjustment items and initial data

The initial values are merely the typical values, which are written automatically after the EEP-ROM replacement, etc. As the adjustments will not be correct if these values are left, be sure to perform actual adjustments before use.

The hatched rows in the following table indicate that adjustments are not necessary, so do not change the value of the initial settings.

No.	Adjustment item (OSD characters)	Initial value (CTL DATA)	Adjustment range
100	PB SW POINT	Auto adjustment	0000H~FFFFH
105	ME REC CURRENT	121	0~255
106	ME SP VCO	0890(Hex)	0000H~FFFFH
107	ME LP VCO	0892(Hex)	0000H~FFFFH
110	FS PLL 48kHz	25	0~255
111	FS PLL 44.1kHz	83	0~255
112	FS PLL 32kHz	25	0~255
113	27MHz VCO	143	0~255
114	ATF GAIN	110	0~255
115	AGC GAIN	132	0~255
116	DUMP CTL	68	0~255
117	PB VCO	128	0~255
118	BGNEND SENS	18	0~255
119	FWD TORQUE	192	0~255
120	REV TORQUE	192	0~255
121	UNLOAD TORQUE	72	0~255
200	OSD ADJ	53	0~255
210	PB Y LEV(S OFF)	129	0~255
211	PB SETUP LEV(S OFF)	192	192~207
212	PB SYNC LEV(S OFF)	89	0~255
213	PB C LEV(S OFF)	95	0~255
214	PB BUR LEV(S OFF)	205	0~255
215	YC REC Y LEV(S OFF)	94	0~255
216	YC REC ST LV(S OFF)	9	0~127
217	YC REC C LEV(S OFF)	0	-16~15
218	LE REC Y LEV(S OFF)	92	0~255
219	LE REC ST LV(S OFF)	8	0~127
220	LE REC C LEV(S OFF)	0	-16~15
221	YC EE Y LEV(S OFF)	96	0~255
222	YC EE C LEV(S OFF)	174	0~255
223	LE EE Y LEV(S OFF)	95	0~255

No.	Adjustment item (OSD characters)	Initial value (CTL DATA)	Adjustment range
224	LE EE C LEV(S OFF)	152	0~255
230	PB Y LEV(S ON)	119	0~255
231	PB SETUP LEV(S ON)	201	192~207
232	PB SYNC LEV(S ON)	118	0~255
233	PB C LEV(S ON)	87	0~255
234	PB BUR LEV(S ON)	200	0~255
235	YC REC Y LEV(S ON)	94	0~255
236	YC REC ST LV(S ON)	34	0~127
237	YC REC C LEV(S ON)	1	-16~15
238	LE REC Y LEV(S ON)	91	0~255
239	LE REC ST LV(S ON)	31	0~127
240	LE REC C LEV(S ON)	2	-16~15
241	YC EE Y LEV(S ON)	95	0~255
242	YC EE C LEV(S ON)	172	0~255
243	LE EE Y LEV(S ON)	96	0~255
244	LE EE C LEV(S ON)	149	0~255
260	PB Y LEV(PAL)	127	0~255
261	PB SETUP LEV(PAL)	0	0~16
262	PB SYNC LEV(PAL)	94	0~255
263	PB C LEV(PAL)	95	0~255
264	PB BUR LEV(PAL)	29	0~255
265	YC REC Y LEV(PAL)	104	0~255
266	YC REC ST LV(PAL)	3	0~127
267	YC REC C LEV(PAL)	-16	-16~15
268	LE REC Y LEV(PAL)	101	0~255
269	LE REC ST LV(PAL)	2	0~127
270	LE REC C LEV(PAL)	-16	-16~15
271	YC EE Y LEV(PAL)	94	0~255
272	YC EE C LEV(PAL)	233	0~255
273	LE EE Y LEV(PAL)	93	0~255
274	LE EE C LEV(PAL)	206	0~255

Table 3.1.5 Adjustment menu items

3.2 DVC UNIT ADJUSTMENTS

Preparation : Connect the Rewrite board (VFK1846) to CN4004 on the Main board. Connect it in the orientation shown in Fig. 3.2, so that the test point surface (component mounting surface) faces toward the rear.

NOTE : DVC UNIT ADJUSTMENTS can be completed if NTSC mode is performed.
Set the NTSC/PAL switch of the rear panel to NTSC.

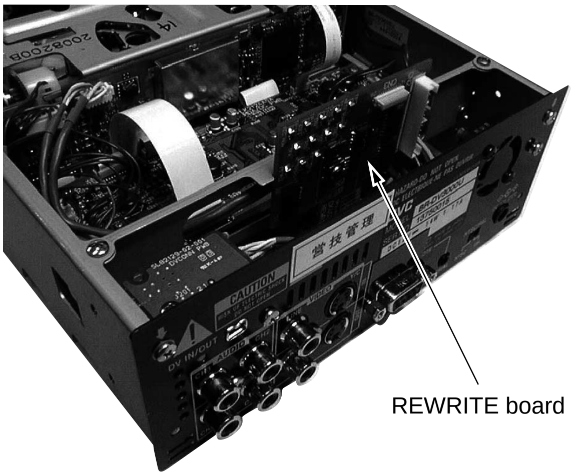


Fig. 3.2 Rewrite board connection method

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
1	PB switching point adjustment	Alignment tape, VFK1842 color bar recorded section	• PLAY • ADJUST MENU, 100. PB SW POINT	◎ TP6 (SPA) ◎ TP9 (ENV OUT) TRIG: TP5 (HID) GND: TP1 (GND) [Rewrite board] ⇧ Auto adjustment ☆ a and b = 126 µ sec ± 10 µ sec	(1) Select ADJUST MENU No. 100, "PB SW POINT". (2) Playback the alignment tape. Confirm that the compatibility adjustment has been performed and the FM waveform at TP9 (ENV OUT) is flat and stable. (3) Press the [SET] button to cause the * marking to blink. The PB switching point will be adjusted automatically.

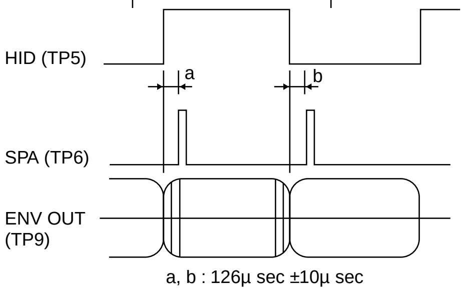
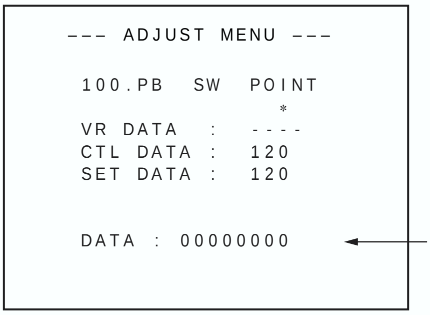


Fig. 3.2.1(1)

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
					(4) Measure TP6 (SPA) by triggering TP5 (HID) and confirm that the values a and b are within the specified ranges. (5) Press the [PLAY] button a few times to display the adjustment data in the "DATA:" field. (The DATA value should not be 00000000 or FFFFFFFF.) (6) Press the [SET] button to store the adjustment data. **NOTE:** **Make sure that the data value is displayed before pressing the [SET] button. If this adjustment is completed before the data value is displayed the adjustment value will not be put into the memory.**
2	ME recording current adjustment		• EE • ADJUST MENU, 105. ME REC CURRENT	◎ Monitor display ⇧ [PLAY] and [STOP] buttons ☆ SET DATA = 115	(1) Select ADJUST MENU No. 105, "ME REC CURRENT". (2) Check the set data so that the value is "115" (Recording current is approx. 360 mVp-p). If not, adjust the value to "115" (3) Press the [SET] button to store the adjustment data.

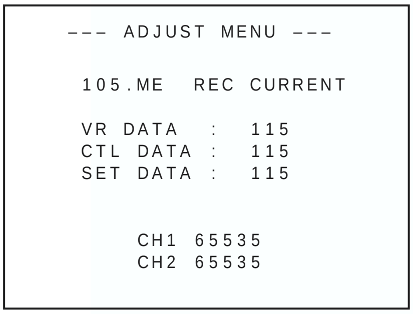


```
--- ADJUST MENU ---

 100.PB  SW  POINT
               *
 VR DATA  :  ----
 CTL DATA :  120
 SET DATA :  120


 DATA : 00000000
```

Press the [PLAY] button a few times to display data.

After displaying the data, press the [SET] button to complete the adjustment.

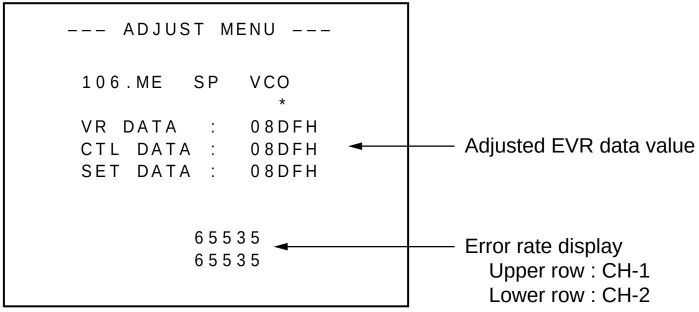
Fig. 3.2.1(2)



```
--- ADJUST MENU ---

 105.ME  REC CURRENT

 VR DATA  :  115
 CTL DATA :  115
 SET DATA :  115


     CH1 65535
     CH2 65535
```

Fig. 3.2.2

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
3	ME SP VCO offset adjustment (Error rate adjustment)	Recording tape (brand-new tape) Moving Picture	• Self-REC/ PLAY • ADJUST MENU, 106. ME SP VCO	Monitor display [PLAY] and [STOP] buttons Minimum error rate, which should be ≦ 498 (per CH). (Viterbi : OFF)	**(Notes)** • **Be sure to use a brand-new tape for the ME SP VCO offset adjustment.** • **Be sure to clean the head with a head cleaning tape before adjustment.** • **The error rate should be measured with the Viterbi OFF. The Viterbi is switched OFF automatically when the adjustment mode is entered.** • **The error rate value is displayed in decimal form.** (1) Record a moving image in advance on the NEW recording tape for 5 minutes. (2) Select ADJUST MENU No. 106, "ME SP VCO". (3) Playback the recorded tape, press the [STOP] button to decrease the adjustment EVR data and freeze the image. (Pressing the [A.DUB] button simultaneously with the ▲ or ▼ button varies the adjustment value by ± 10 steps.) (4) Increase the EVR data gradually until the block noise just disappears. The current value is the adjustment value "A". (5) Playback the recorded tape and press the [PLAY] button to increase the EVR data and freeze the image. (6) Decrease the EVR data gradually until the block noise just disappears. The current value is the adjustment value "B". (7) Calculate the intermediate value between the "A" and "B" values. (Since the adjustment values are hex numbers, use a functional computation-capable calculator or the PC calculator provided in Accessories.) C = (A + B)/2 Set the value "C" as the adjustment value. (8) Playback the recorded tape again, confirm that the error rate is within specification. (9) Press the [SET] button to store the adjustment data.



```
--- ADJUST MENU ---

106.ME  SP  VCO
             *
VR DATA   :  08DFH
CTL DATA  :  08DFH
SET DATA  :  08DFH


           65535
           65535
```

Fig. 3.2.3 (1) SP VCO Offset Menu

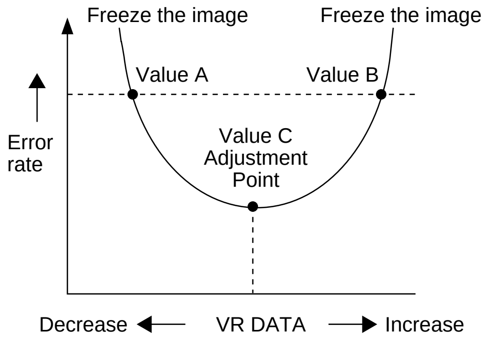


Fig. 3.2.3 (2) Consept of the adjustment

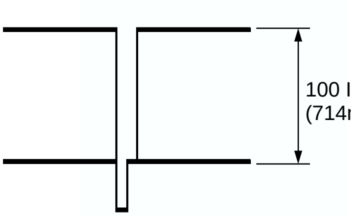
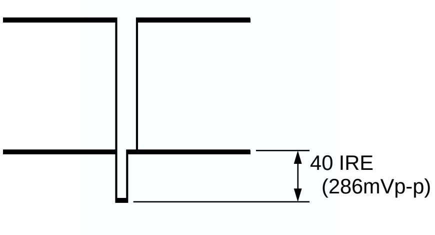
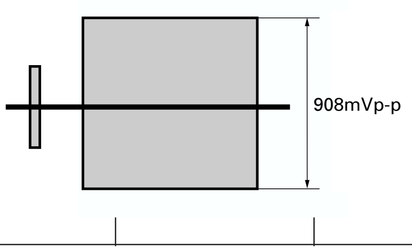
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (↑) Adjustment level (☆)	Adjustment procedure
4	FS PLL 48 kHz adjustment	Frequency counter No input	EE ADJUST MENU, 110. FS PLL 48 kHz	◎ TP4 (FS PLL) GND: TP1 (GND) [Rewrite board] ↑ [PLAY] and [STOP] buttons ☆ 12.288 MHz ± 0.1 MHz	(1) Select ADJUST MENU No. 110, "FS PLL 48 kHz". (2) Press the [SET] button to measure frequency. (3) Adjust the frequency to the specified value. (4) Press the [SET] button to store the adjustment data.
5	FS PLL 44.1 kHz adjustment	Frequency counter No input	EE ADJUST MENU, 111. FS PLL 44.1 kHz	◎ TP4 (FS PLL) GND: TP1 (GND) [Rewrite board] ↑ [PLAY] and [STOP] buttons ☆ 11.2896 MHz ± 0.1 MHz	(1) Select ADJUST MENU No. 111, "FS PLL 44.1 kHz". (2) Press the [SET] button to measure frequency. (3) Adjust the frequency to the specified value. (4) Press the [SET] button to store the adjustment data.
6	FS PLL 32 kHz adjustment	No input.	EE ADJUST MENU,112. FS PLL 32 kHz	◎ Monitor display ↑ [PLAY] and [STOP] buttons ☆ Value adjusted in No. 110, "FS PLL 48 kHz" in item 4 above.	(1) Select ADJUST MENU No. 112, "FS PLL 32 kHz". (2) Press the [SET] button to measure frequency. (3) Adjust to the same value as the FS PLL 48 kHz adjustment value. (Setting range: 0 to 255) (4) Press the [SET] button to store the adjustment data.
7	27 MHz VCO center frequency adjustment	Frequency counter No input	EE ADJUST MENU,113. 27 MHz VCO	◎ TP7 (MAIN VCO) GND: TP1 (GND) [Rewrite board] ↑ [PLAY] and [STOP] buttons ☆ 13.5 MHz ± 0.1 MHz	(1) Select ADJUST MENU No. 113, "27 MHz VCO". (2) Press the [SET] button to measure frequency. (3) Adjust the frequency to the specified value. (4) Press the [SET] button to store the adjustment data.

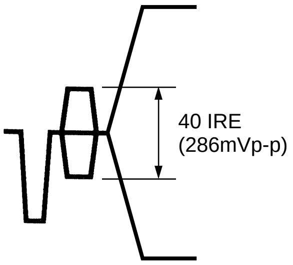
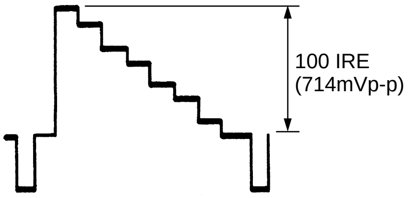
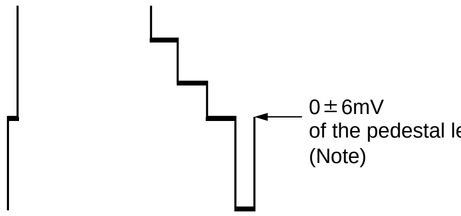
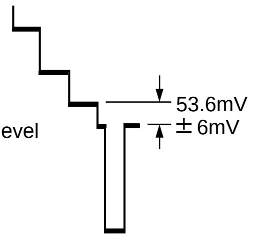
3.3 VIDEO SYSTEM ADJUSTMENTS

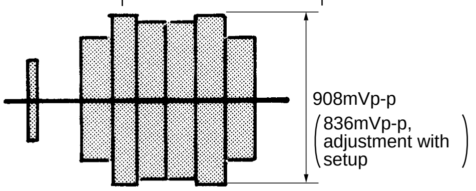
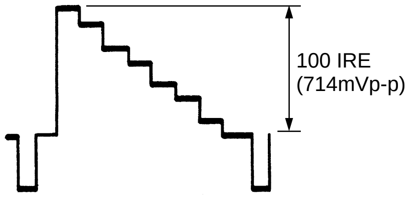
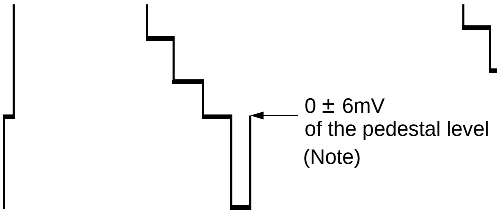
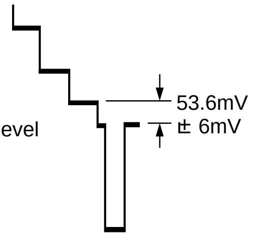
- Use NTSC signals for the NTSC adjustments and PAL signals for the PAL adjustments.
- Use the specified signals to make adjustments whenever possible. When there are no specified signals, please refer to the “3.1.4 Notes for adjustments”.
- The monitor image may fluctuate horizontally during adjustments. This phenomenon occurs only in the adjustment mode and does not affect the adjustment results.
- When an item is selected in the ADJUST MENU and INPUT SELECT SW sets to LINE or Y/C, the INPUT SELECT is switched automatically according to the selected item. If DV input is selected, disable automatic selection.

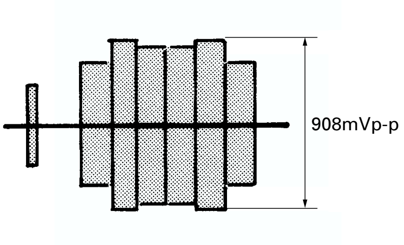
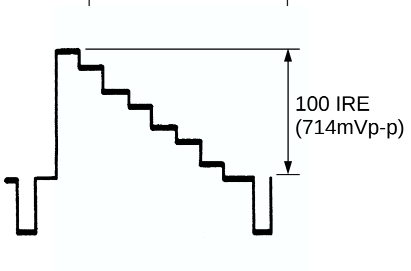
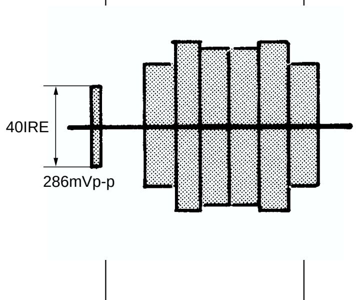
(1) NTSC circuit adjustments

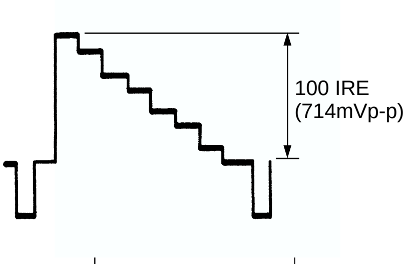
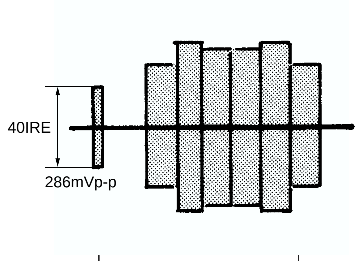
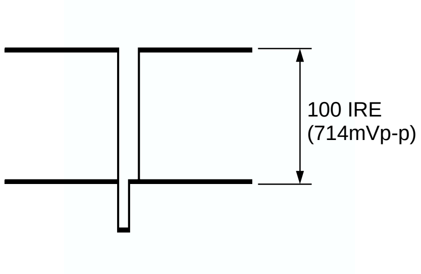
Set the [NTSC/PAL] switch of rear panel to “NTSC”.

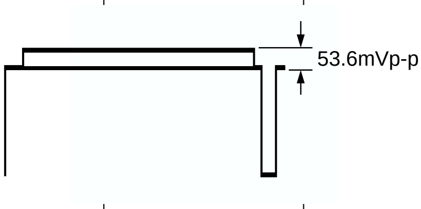
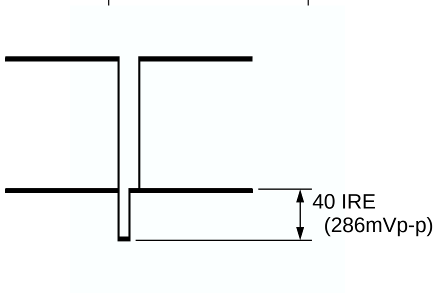
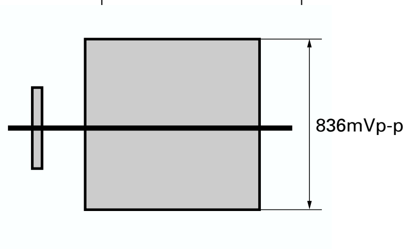
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
1	NTSC PB Y level adjustment (SETUP OFF) 	WFM (NTSC) or oscilloscope 100% WHITE (built-in signal)	EE ADJUST MENU, 210. PB Y LEV (S OFF)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 210, "PB Y LEV (S OFF)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
2	NTSC PB SYNC level adjustment (SETUP OFF) 	WFM (NTSC) or oscilloscope 100% WHITE (built-in signal)	EE ADJUST MENU, 212. PB SYNC LEV (S OFF)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 212, "PB SYNC LEV (S OFF)". (3) Adjust so that the level from the pedestal to the sync tip is as specified. (4) Press the [SET] button to store the adjustment data.
3	NTSC PB Chroma level adjustment (SETUP OFF) 	WFM (NTSC) or oscilloscope RED raster (built-in signal)	EE ADJUST MENU, 213. PB C LEV (S OFF)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 908 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 213, "PB C LEV (S OFF)". (3) Adjust so that the chroma level is as specified. (4) Press the [SET] button to store the adjustment data.

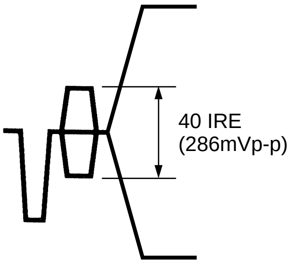
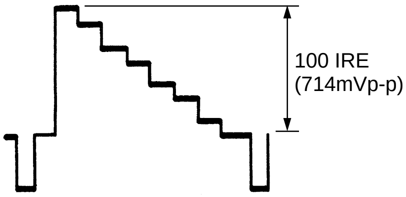
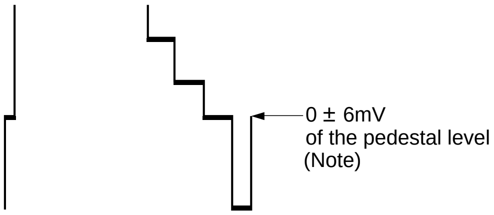
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
4	NTSC PB BURST level adjustment (SETUP OFF)  	WFM (NTSC) or oscilloscope RED raster (built-in signal)	EE ADJUST MENU, 214. PB BUR LEV (S OFF)	◎ C OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 214, "PB BUR LEV (S OFF)". (3) Adjust so that the burst level is as specified. (4) Press the [SET] button to store the adjustment data.
5	NTSC Y/C IN REC Y level adjustment (SETUP OFF)  	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%)	EE ADJUST MENU, 215. YC REC Y LEV (S OFF)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 215, "YC REC Y LEV (S OFF)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
6	NTSC Y/C IN REC SETUP level adjustment (SETUP OFF)  Adjustment without setup  Adjustment with setup	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%)	EE ADJUST MENU, 216. YC REC ST LV (S OFF)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 216, "YC REC ST LV (S OFF)". (3) Adjust so that the setup level is as specified. (4) Press the [SET] button to store the adjustment data. (5) Check ADJUST MENU No. 215, "YC REC Y LEV (S OFF)". If it is deviated, adjust it again. **Reference:** **If a 7.5% setup signal should be used, the same effect as this adjustment can be obtained by adjusting the setup level to 53.6 mV ± 6 mV.** **Note:** Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0.

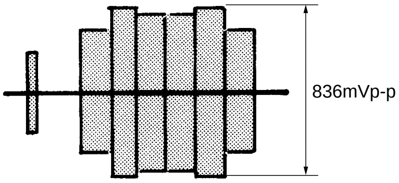
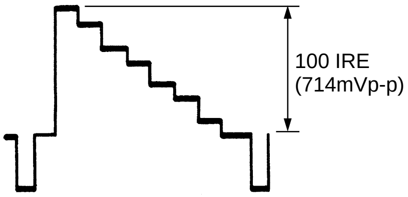
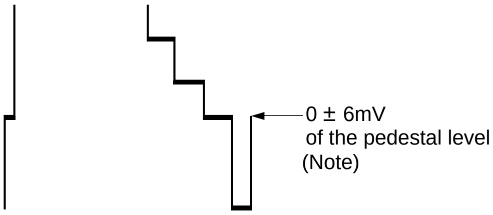
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
7	NTSC Y/C IN REC C level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%)  	EE ADJUST MENU, 217. YC REC C LEV (S OFF)	◎ C OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 908 mVp-p (RED)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 217, "YC REC C LEV (S OFF)". (3) Adjust so that the RED color levels are as specified. (4) Press the [SET] button to store the adjustment data. **Reference:** **If 7.5% signal setup should be used, the same effect as this adjustment can be obtained by adjusting the color level to 836 mV p-p (100% color).**
8	NTSC LINE IN REC Y level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%)  	EE ADJUST MENU, 218. LE REC Y LEV (S OFF)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 218, "LE REC Y LEV (S OFF)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
9	NTSC LINE IN REC SETUP level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%)  Adjustment without setup	EE ADJUST MENU, 219. LE REC ST LV (S OFF)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level  Adjustment with setup	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 219, "LE REC ST LV (S OFF)". (3) Adjust so that the setup level is as specified. (4) Press the [SET] button to store the adjustment data. (5) Check ADJUST MENU No. 218, "LE REC Y LEV (S OFF)". If it is deviated, adjust it again. **Reference:** **If 7.5% signal setup should be used, the same effect as this adjustment can be obtained by adjusting the setup level to 53.6 mV ± 6 mV.** **Note:** Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0.

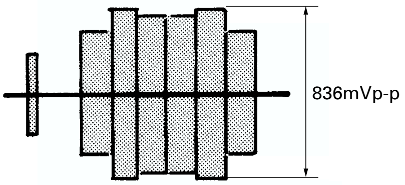
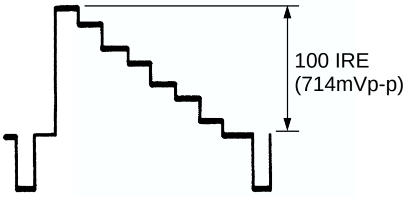
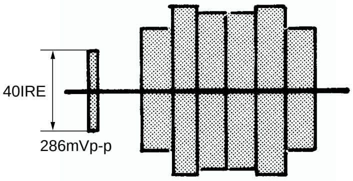
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
10	NTSC LINE IN REC C level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%) 	EE ADJUST MENU, 220. LE REC C LEV (S OFF)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 908 mVp-p (RED)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 220, "LE REC C LEV (S OFF)". (3) Adjust so that the RED color levels are as specified. (4) Press the [SET] button to store the adjustment data. **Reference:** **If 7.5% signal setup should be used, the same effect as this adjustment can be obtained by adjusting the color level to 836 mV p-p (100% color).**
11	NTSC Y/C IN EE Y level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%) 	EE ADJUST MENU, 221. YC EE Y LEV (S OFF)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 221, "YC EE Y LEV (S OFF)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data. **Reference:** **If a 7.5% setup signal should be used, the same effect as this adjustment can be obtained by simply ignoring the setup level.**
12	NTSC Y/C IN EE C level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%) 	EE ADJUST MENU, 222. YC EE C LEV (S OFF)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 222, "YC EE C LEV (S OFF)". (3) Adjust so that the burst levels are as specified. (4) Press the [SET] button to store the adjustment data.

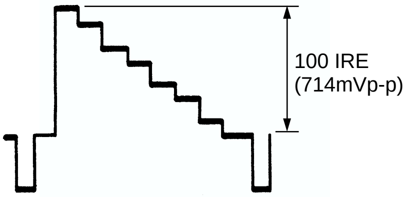
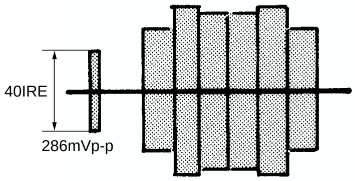
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (Ⓣ) Adjustment level (☆)	Adjustment procedure
13	NTSC LINE IN EE Y level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%)  	EE ADJUST MENU, 223. LE EE Y LEV (S OFF)	◎ Y OUT (Y/C jack) (75 Ω terminated) Ⓣ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 223, "LE EE Y LEV (S OFF)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data. **Reference:** **If a 7.5% setup signal should be used, the same effect as this adjustment can be obtained by simply ignoring the setup level.**
14	NTSC LINE IN EE C level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%)  	EE ADJUST MENU, 224. LE EE C LEV (S OFF)	◎ C OUT (Y/C jack) (75 Ω terminated) Ⓣ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 224, "LE EE C LEV (S OFF)". (3) Adjust so that the burst levels are as specified. (4) Press the [SET] button to store the adjustment data.
15	NTSC PB Y level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope 100% WHITE (built-in signal)  	EE ADJUST MENU, 230. PB Y LEV (S ON)C LEV	◎ Y OUT (Y/C jack) (75 Ω terminated) Ⓣ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 230, "PB Y LEV (S ON)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
16	NTSC PB SETUP level adjustment (SETUP ON)  	WFM (NTSC) or oscilloscope BLACK BURST (built-in signal)	EE ADJUST MENU, 231. PB SETUP LEV (S ON)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 53.6 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 231, "PB SETUP LEV (S ON)". (3) Adjust so that the SETUP levels are as specified. (4) Press the [SET] button to store the adjustment data. (5) Check ADJUST MENU No. 230, "PB Y LEV (S ON)" in item 15. If it is deviated, adjust it again.
17	NTSC PB SYNC level adjustment (SETUP ON)  	WFM (NTSC) or oscilloscope 100% WHITE (built-in signal)	EE ADJUST MENU, 232. PB SYNC LEV (S ON)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 232, "PB SYNC LEV (S ON)". (3) Adjust so that the sync level is as specified. (4) Press the [SET] button to store the adjustment data.
18	NTSC PB C level adjustment (SETUP ON)  	WFM (NTSC) or oscilloscope RED raster (built-in signal)	EE ADJUST MENU, 233. PB C LEV (S ON)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 836 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 233, "PB C LEV (S ON)". (3) Adjust so that the RED color level is as specified. (4) Press the [SET] button to store the adjustment data.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
19	NTSC PB BURST level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope RED raster (built-in signal)  	EE ADJUST MENU, 234. PB BUR LEV (S ON)	◎ C OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 234, "PB BUR LEV (S ON)". (3)Adjust so that the burst level is as specified. (4)Press the [SET] button to store the adjustment data.
20	NTSC Y/C In REC Y level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%)  	EE ADJUST MENU, 235. YC REC Y LEV (S ON)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 235, "YC REC Y LEV (S ON)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4)Press the [SET] button to store the adjustment data.
21	NTSC Y/C IN REC SETUP level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%)  	EE ADJUST MENU, 236. YC REC ST LV (S ON)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 236, "YC REC ST LV (S ON)". (3)Adjust so that the setup level is as specified. (4)Press the [SET] button to store the adjustment data. (5)Check ADJUST MENU No. 235, "YC REC Y LEV (S ON)" in item 20 above. If it is deviated, adjust it again. **Note:** Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
22	NTSC Y/C IN REC SETUP level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%)  	EE ADJUST MENU, 237. YC REC C LEV (S ON)	◎ C OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 836 mVp-p (RED)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 237, "YC REC C LEV (S ON)". (3) Adjust so that the RED color levels are as specified. (4) Press the [SET] button to store the adjustment data.
23	NTSC LINE IN REC Y level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (Setup 7.5%)  	EE ADJUST MENU, 238. LE REC Y LEV (S ON)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 238, "LE REC Y LEV (S ON)". (3) Adjust so that the difference from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
24	NTSC LINE IN REC SETUP level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (Setup 7.5%)  	EE ADJUST MENU, 239. LE REC ST LV (S ON)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 239, "LE REC ST LV (S ON)". (3) Adjust so that the setup level is as specified. (4) Press the [SET] button to store the adjustment data. **Note:** Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0.

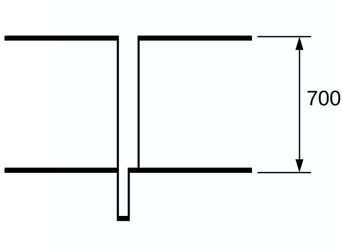
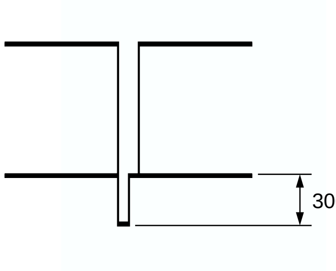
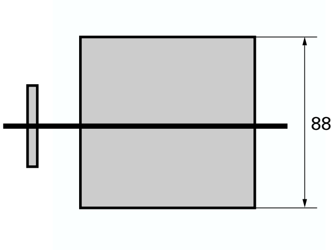
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
25	NTSC LINE IN REC C level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SET UP 7.5 %)  	EE ADJUST MENU, 240. LE REC C LEV (S ON)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 836 mVp-p (RED)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 240, "LE REC C LEV (S ON)". (3) Adjust so that the RED color levels are as specified. (4) Press the [SET] button to store the adjustment data.
26	NTSC Y/C IN EE Y level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%)  	EE ADJUST MENU, 241. YC EE Y LEV (S ON)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 241, "YC EE Y LEV (S ON)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
27	NTSC Y/C IN EE C level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%)  	EE ADJUST MENU, 242. YC EE C LEV (S ON)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 242, "YC EE C LEV (S ON)". (3) Adjust so that the burst levels are as specified. (4) Press the [SET] button to store the adjustment data.

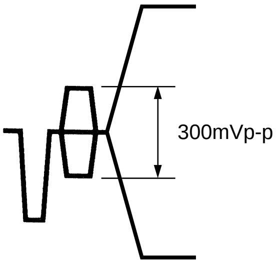
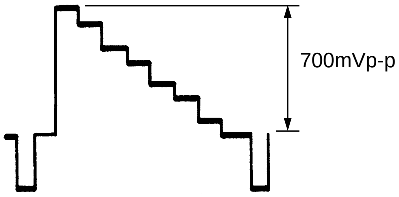
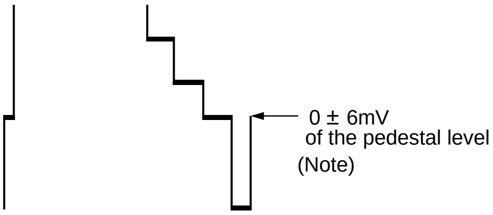
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
28	NTSC LINE IN EE Y level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (Setup 7.5%) 	EE ADJUST MENU, 243. LE EE Y LEV (S ON)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 243, "LE EE Y LEV (S ON)". (3) Adjust so that the **level** from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
29	NTSC LINE IN EE C level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (Setup 7.5%) 	EE ADJUST MENU, 244. LE EE C LEV (S ON)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 244, "LE EE C LEV (S ON)". (3) Adjust so that the burst levels are as specified. (4) Press the [SET] button to store the adjustment data.

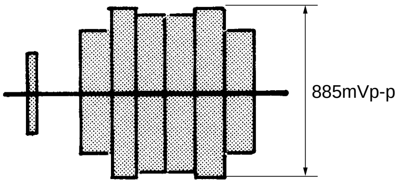
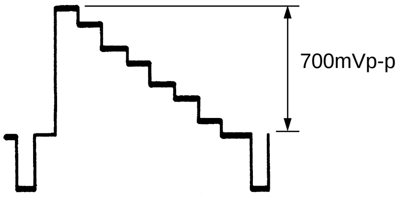
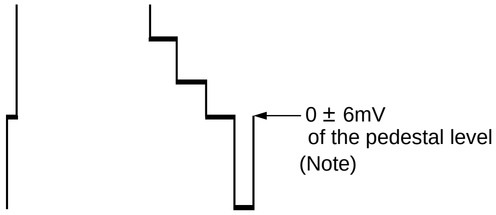
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure

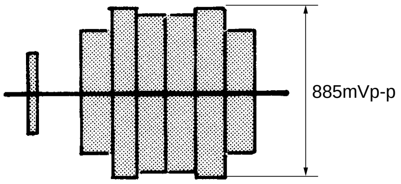
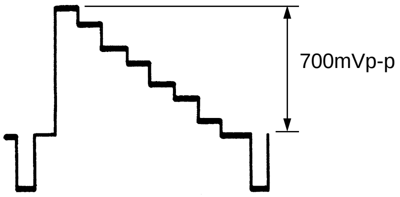
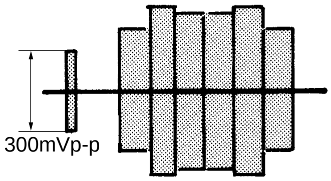
(2) PAL circuit adjustments

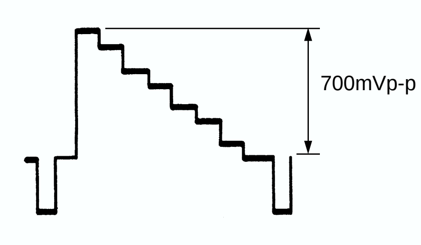
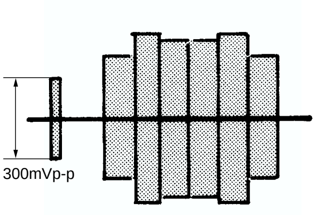
Set the [NTSC /PAL] switch of rear panel to “PAL”.

30	PAL PB Y level adjustment	WFM (PAL) or oscilloscope 100% WHITE (built-in signal) 	EE ADJUST MENU, 260. PB Y LEV (PAL)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 700 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 260, "PB Y LEV (PAL)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data. **Note:** **When this item is selected after an NTSC adjustment item, the built-in 100% WHITE signal may sometimes be unable to be output. In this case, select No. 262, "PB SYNC LEV (PAL)" and then select No. 260, "PB Y LEV (PAL)" again.**
31	PAL PB SYNC level adjustment	WFM (PAL) or oscilloscope 100% WHITE (built-in signal) 	EE ADJUST MENU, 262. PB SYNC LEV (PAL)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 300 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 262, "PB SYNC LEV (PAL)". (3) Adjust so that the sync level is as specified. (4) Press the [SET] button to store the adjustment data.
32	PAL PB C level adjustment	WFM (PAL) or oscilloscope RED raster (built-in signal) 	EE ADJUST MENU, 263. PB C LEV (PAL)	◎ C OUT (Y/C jack) (75 Ω terminated) ◎ [PLAY] and [STOP] buttons ☆ 885 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 263, "PB C LEV (PAL)". (3) Adjust so that the color levels are as specified. (4) Press the [SET] button to store the adjustment data.

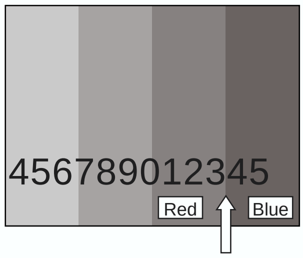
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
33	PAL PB BURST level adjustment	WFM (PAL) or oscilloscope RED raster (built-in signal)  	EE ADJUST MENU, 264. PB BUR LEV (PAL)	◎ C OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 300 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 264, "PB BUR LEV (PAL)". (3) Adjust so that the burst level is as specified. (4) Press the [SET] button to store the adjustment data.
34	PAL Y/C IN REC Y level adjustment	WFM (PAL) or oscilloscope Y/C IN PAL 100% color bar  	EE ADJUST MENU, 265. YC REC Y LEV (PAL)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 700 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 265, "YC REC Y LEV (PAL)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
35	PAL Y/C IN REC SETUP level adjustment	WFM (PAL) or oscilloscope Y/C IN PAL 100% color bar  	EE ADJUST MENU, 266. YC REC ST LV (PAL)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 266, "YC REC ST LV (PAL)". (3) Adjust so that the setup level is as specified. (4) Press the [SET] button to store the adjustment data. (5) Check ADJUST MENU No. 265, "YC REC Y LEV (PAL)" in item 34 above. If it is deviated, adjust it again. **Note:** Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
36	PAL Y/C IN REC C level adjustment  	WFM (PAL) or oscilloscope Y/C IN PAL 100% color bar	EE ADJUST MENU, 267. YC REC C LEV (PAL)	◎ C OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 885 mVp-p (RED)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 267, "YC REC C LEV (PAL)". (3) Adjust so that the RED color levels are as specified. (4) Press the [SET] button to store the adjustment data.
37	PAL LINE IN REC Y level adjustment  	WFM (PAL) or oscilloscope LINE IN PAL 100% color bar	EE ADJUST MENU, 268. LE REC Y LEV (PAL)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 700 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 268, "LE REC Y LEV (PAL)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
38	PAL LINE IN REC SETUP level adjustment  	WFM (PAL) or oscilloscope LINE IN PAL 100% color bar	EE ADJUST MENU, 269. LE REC ST LV (PAL)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 269, "LE REC ST LV (PAL)". (3) Adjust so that the setup level is as specified. (4) Press the [SET] button to store the adjustment data. (5) Check ADJUST MENU No. 268, "LE REC Y LEV (PAL)" in item 37 above. If it is deviated, adjust it again. **Note:** Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0.

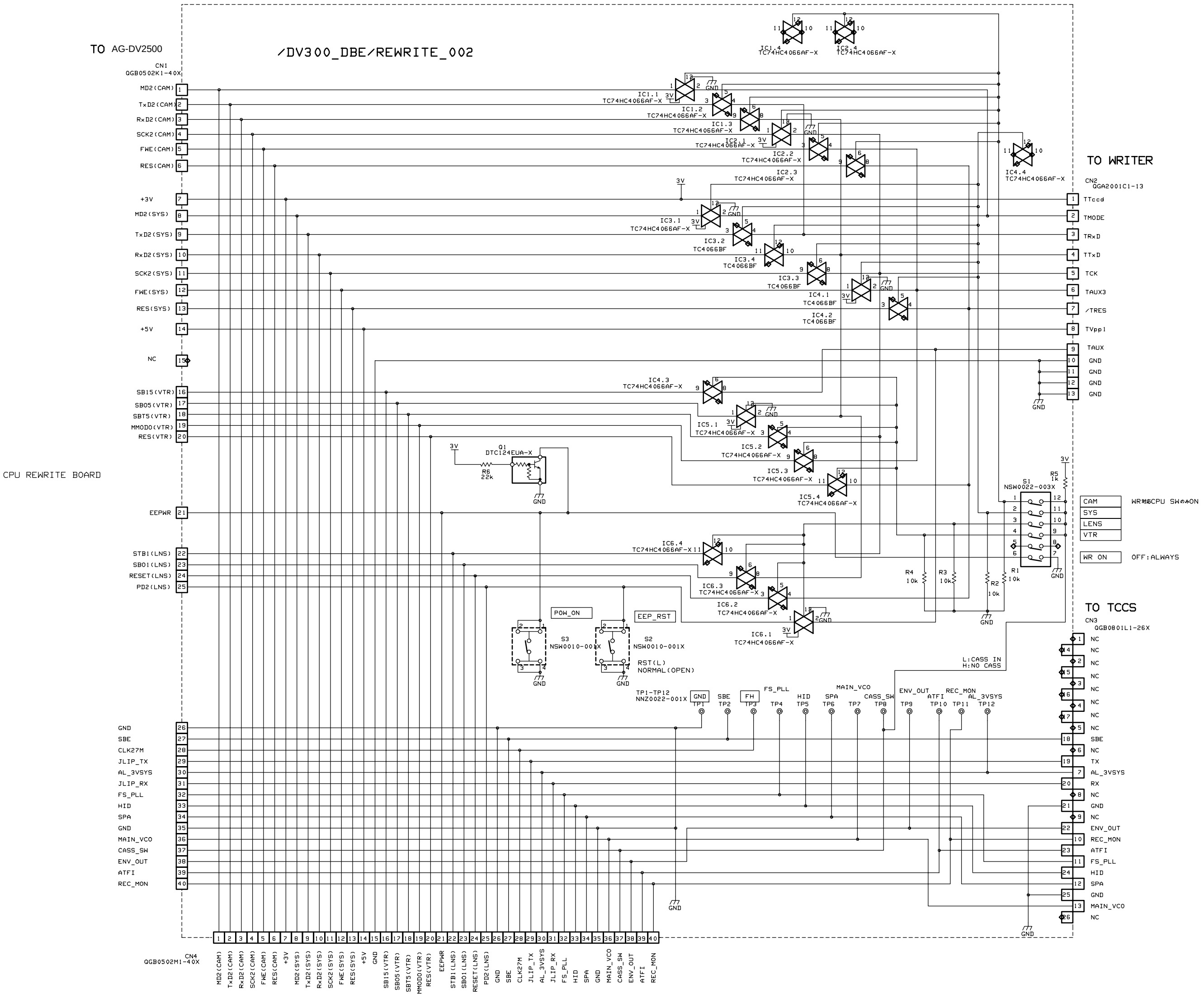
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
39	PAL LINE IN REC C level adjustment  	WFM (PAL) or oscilloscope LINE IN PAL 100% color bar	EE ADJUST MENU, 270. LE REC C LEV (PAL)	◎ C OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 885 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 270, "LE REC C LEV (PAL)". (3) Adjust so that the RED color levels are as specified. (4) Press the [SET] button to store the adjustment data.
40	PAL Y/C IN EE Y level adjustment  	WFM (PAL) or oscilloscope Y/C IN PAL 100% color bar	EE ADJUST MENU, 271. YC EE Y LEV (PAL)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 700 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 271, "YC EE Y LEV (PAL)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
41	PAL Y/C IN EE C level adjustment  	WFM (PAL) or oscilloscope Y/C IN PAL 100% color bar	EE ADJUST MENU, 272. YC EE C LEV (PAL)	◎ C OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 300 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 272, "YC EE C LEV (PAL)". (3) Adjust so that the burst levels are as specified. (4) Press the [SET] button to store the adjustment data.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
42	PAL LINE IN EE Y level adjustment  	WFM (PAL) or oscilloscope LINE IN PAL 100% color bar	EE ADJUST MENU, 273. LE EE Y LEV (PAL)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 700 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 273, "LE EE Y LEV (PAL)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
43	PAL LINE IN EE C level adjustment  	WFM (PAL) or oscilloscope LINE IN PAL 100% color bar	EE ADJUST MENU, 274. LE EE C LEV (PAL)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 300 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 274, "LE EE C LEV (PAL)". (3) Adjust so that the burst levels are as specified. (4) Press the [SET] button to store the adjustment data.

(3) On-screen display adjustment

44	On-screen display position adjustment  Adjust so that the boundary between the Red and Blue color bars comes in the space between "4" and "3".	Monitor TV Color bar (built-in signal)	EE ADJUST MENU, 200 OSD ADJ	◎ LINE OUT or Y/C OUT (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ Between "3" and "4" ± 1/5 character	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 200, "OSD ADJ". (3) Adjust so that the boundary between the Red and Blue color bars comes in the space between "4" on the second position from the right of the array of figures on the bottom of the screen and "3" on the third position. (4) Press the [SET] button to store the adjustment data.

3.4 REWRITE BOARD SCHEMATIC DIAGRAM


TO AG-DV2500
/DV300_DBE/REWRITE_002
CN1
QGB0502K1-40X
MD2(CAM) 1
TxD2(CAM) 2
RxD2(CAM) 3
SCK2(CAM) 4
FWE(CAM) 5
RES(CAM) 6
+3V 7
MD2(SYS) 8
TxD2(SYS) 9
RxD2(SYS) 10
SCK2(SYS) 11
FWE(SYS) 12
RES(SYS) 13
+5V 14
NC 15
SB15(VTR) 16
SB05(VTR) 17
SBT5(VTR) 18
MMODO(VTR) 19
RES(VTR) 20
CPU REWRITE BOARD
EEPWR 21
STB1(LNS) 22
SB01(LNS) 23
RESET(LNS) 24
PD2(LNS) 25
GND 26
SBE 27
CLK27M 28
JLIP_TX 29
AL_3VSYS 30
JLIP_RX 31
FS_PLL 32
HID 33
SPA 34
GND 35
MAIN_VCO 36
CASS_SW 37
ENV_OUT 38
ATFI 39
REC_MON 40
IC1.1 TC74HC4066AF-X
IC1.2 TC74HC4066AF-X
IC1.3 TC74HC4066AF-X
IC1.4 TC74HC4066AF-X
IC2.1 TC74HC4066AF-X
IC2.2 TC74HC4066AF-X
IC2.3 TC74HC4066AF-X
IC2.4 TC74HC4066AF-X
IC3.1 TC74HC4066AF-X
IC3.2 TC4066BF
IC3.3 TC4066BF
IC3.4 TC4066BF
IC4.1 TC4066BF
IC4.2 TC4066BF
IC4.3 TC74HC4066AF-X
IC4.4 TC74HC4066AF-X
IC5.1 TC74HC4066AF-X
IC5.2 TC74HC4066AF-X
IC5.3 TC74HC4066AF-X
IC5.4 TC74HC4066AF-X
IC6.1 TC74HC4066AF-X
IC6.2 TC74HC4066AF-X
IC6.3 TC74HC4066AF-X
IC6.4 TC74HC4066AF-X
3V
GND
Q1 DTC124EUA-X
R6 22k
POW_ON
EEP_RST
S3 NSW0010-001X
S2 NSW0010-001X
RST(L)
NORMAL(OPEN)
TP1-TP12
NNZ0022-001X
GND TP1
SBE TP2
FH TP3
FS_PLL TP4
HID TP5
SPA TP6
MAIN_VCO TP7
CASS_SW TP8
ENV_OUT TP9
ATFI TP10
REC_MON TP11
AL_3VSYS TP12
TO WRITER
CN2
QGA2001C1-13
1 TTccd
2 TMODE
3 TRxD
4 TTxD
5 TCK
6 TAUX3
7 /TRES
8 TVpp1
9 TAUX
10 GND
11 GND
12 GND
13 GND
R5 1k
S1 NSW0022-003X
CAM
SYS
LENS
VTR
WR対応CPU SWのみON
WR ON
OFF:ALWAYS
R1 10k
R2 10k
R3 10k
R4 10k
L:CASS IN
H:NO CASS
TO TCCS
CN3
QGB0801L1-26X
1 NC
14 NC
2 NC
15 NC
3 NC
16 NC
4 NC
17 NC
5 NC
18 SBE
6 NC
19 TX
7 AL_3VSYS
20 RX
8 NC
21 GND
9 NC
22 ENV_OUT
10 REC_MON
23 ATFI
11 FS_PLL
24 HID
12 SPA
25 GND
13 MAIN_VCO
26 NC
CN4
QGB0502M1-40X
1 MD2(CAM)
2 TxD2(CAM)
3 RxD2(CAM)
4 SCK2(CAM)
5 FWE(CAM)
6 RES(CAM)
7 +3V
8 MD2(SYS)
9 TxD2(SYS)
10 RxD2(SYS)
11 SCK2(SYS)
12 FWE(SYS)
13 RES(SYS)
14 +5V
15 GND
16 SB15(VTR)
17 SB05(VTR)
18 SBT5(VTR)
19 MMODO(VTR)
20 RES(VTR)
21 EEPWR
22 STB1(LNS)
23 SB01(LNS)
24 RESET(LNS)
25 PD2(LNS)
26 GND
27 SBE
28 CLK27M
29 JLIP_TX
30 AL_3VSYS
31 JLIP_RX
32 FS_PLL
33 HID
34 SPA
35 GND
36 MAIN_VCO
37 CASS_SW
38 ENV_OUT
39 ATFI
40 REC_MON

S1			S2	S3
Pin No.	Initial	Parameter	Not used	Not used
1	OFF	ON : Enable to rewrite VTR (MSD)		
2	OFF	ON : Enable to rewrite SYS CPU		
3	OFF	Not used		
4	OFF	ON : Enable to rewrite VTR (MSD) CPU ((Note)		
5	OFF	Not used		
6	OFF	Not used		

(Note : When rewriting the VTR (MSD) firmware, both of switch S1 - 1 and 4 should be set to “ON”.

SECTION 4

TECHNICAL DESCRIPTION

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SECTION 4
TECHNICAL DESCRIPTION

4.1 PRODUCT OUTLINE

(1) DV Standard/Mini cassette compatible
(2) 4.5 hours consecutive recording/playback possible using Standard cassette (DV270)
(3) 5.25-inch half hight bay size compact design (mechanism unit only)
(4) Layout-free with horizontal and vertical positioning capability

4.2 MECHANISM

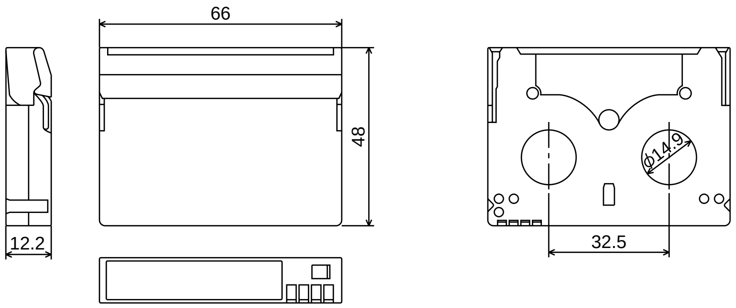
4.2.1 Mechanism out line

Item	AG-DV2500
Compatible cassette	Mini/Standard Cassette compatible
Loading system	Front loading
Head cleaner	Yes (solenoid)
Reel drive	Reel motor (1 motor)
FWD/REV reel switching	Swing gear switching
Tension control	Tension band method (SUP/TU dual control)

4.2.2 Regarding standard cassette

AG-DV2500 is newly compatible with DV standard size cassettes. Fig. 4.2.1 shows a size comparison with conventional Mini cassette. All dimensions differ, including cassette thickness in addition to height and width.

• Mini Cassette



• Standard Cassette

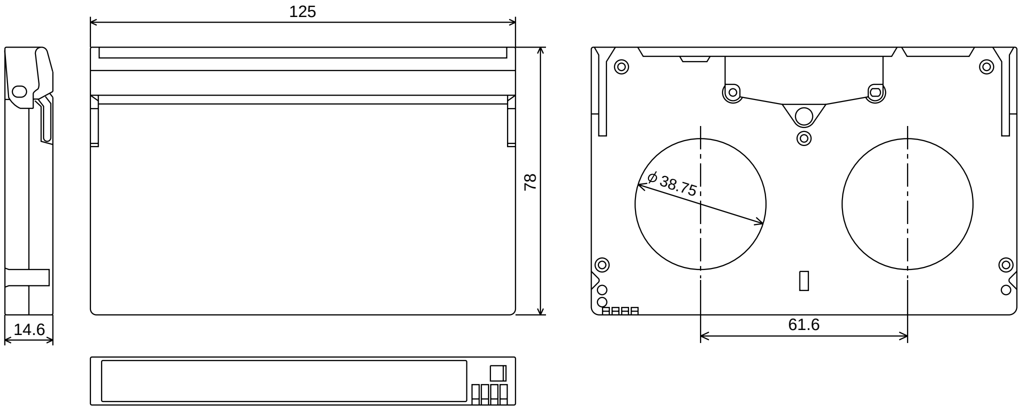


Fig. 4.2.1 Comparison Between Mini Cassette and Standard Cassette

4.2.3 Cassette housing operation outline

(1) Inserted cassette type detection

In its initial state, the reel disk is in the standard position, and only when a mini cassette is inserted it changes to the mini cassette position. As explained in Section 2, it is the reel change plate (Fig. 4.2.5) that changes the position of the reel disk.

As previously compared in 4.2.1, the thickness of standard and mini cassettes differ.

Standard cassette thickness	: 14.6 mm
Mini cassette thickness	: 12.2 mm

Based on this difference, it is differentiated within the cassette housing whether the inserted cassette is standard or mini.

1) When a mini cassette is inserted

The reel disk position changes to the mini cassette position at the same time the cassette housing performs the intake movement.

The reel change bracket (Fig. 4.2.3) located on the right side of the cassette housing is linked to the reel change plate (Fig. 4.2.4), so when the cassette housing intake movement occurs the reel change plate also moves, thereby changing to the mini cassette position.

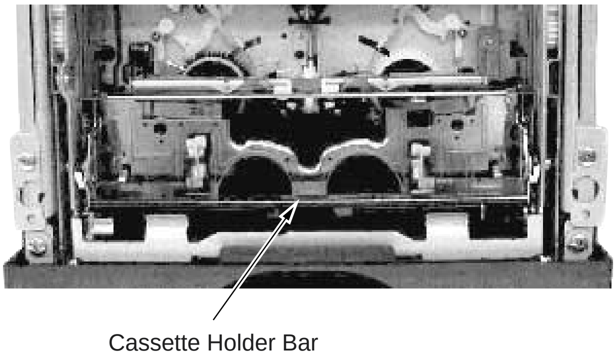


Fig. 4.2.2 Cassette Holder Bar

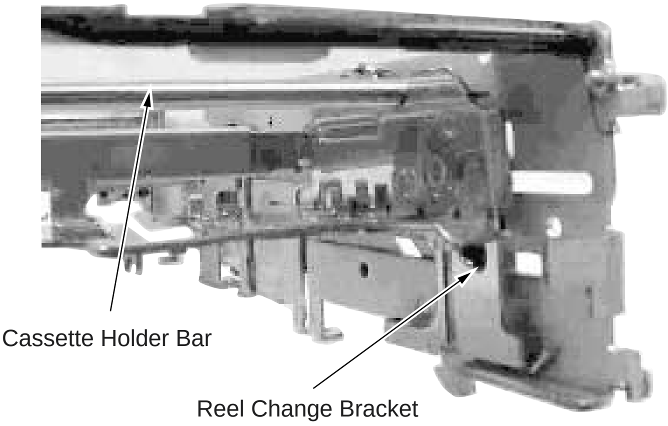


Fig. 4.2.3 Reel Change Bracket

2) When a standard cassette is inserted

The cassette holder bar (Fig. 4.2.2) is pushed up for the amount of thickness differential in relation to mini cassette, and in conjunction the reel change bracket (Fig. 4.2.3) located on the right side of the cassette housing moves upward. As a result, the link with the reel change plate (Fig. 4.2.4) becomes free, and the reel disk becomes held in the standard position even while the cassette housing is undergoing the intake movement.

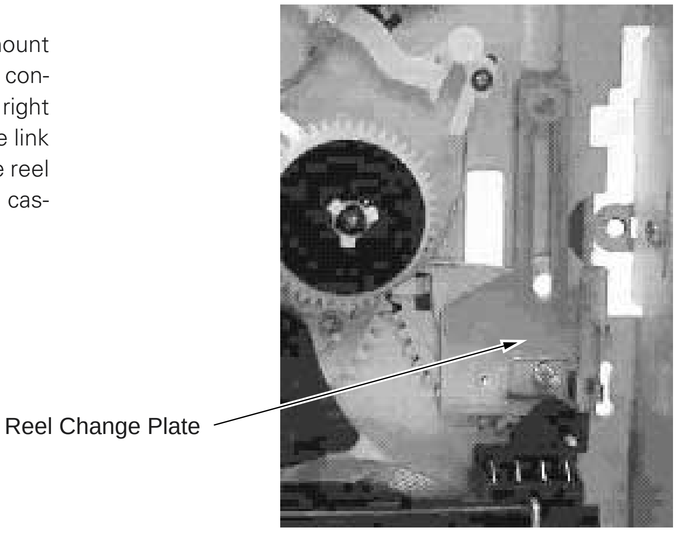


Fig. 4.2.4 Reel Change Plate

(2) Mini Cassette Incorrect Insertion Prevention Function

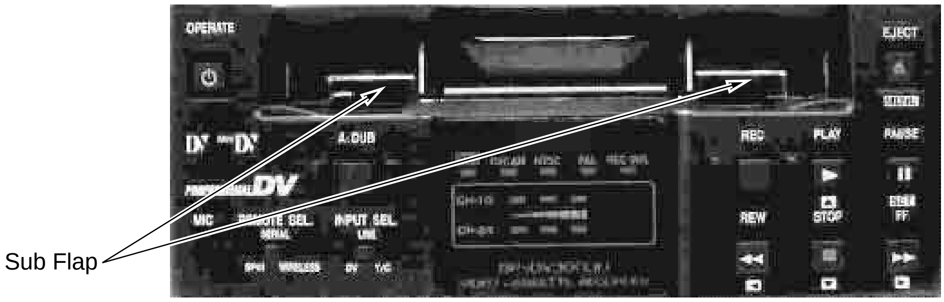


Fig. 4.2.5 Sub Flap

Sub flaps are attached on the cassette guide assembly located on the bottom end of the cassette housing door. These two sub flaps are designed to open when both are pressed simultaneously, and in the case of a mini cassette it is impossible for both to be pressed at the same time. So even if an inserted mini cassette touches against one of the sub flaps, the sub flaps will act as a brake to prevent erroneous loading of a mini cassette.

CAUTION

Even with standard cassettes, if the cassette is inserted skewed or diagonally offset in relation to the sub flaps, the sub flaps may not open and cassette insertion may not be possible. When inserting a standard cassette, be sure to insert so that the sides are parallel to the sub flaps.

(3) Intake/Eject Detection

Two housing switches (HW, HW2) are equipped on the front left side of the main deck. (See Fig. 4.2.6)

In the initial status in which no cassette is inserted (NO cassette mode), switch HW is pressed and switch HW2 is not pressed.

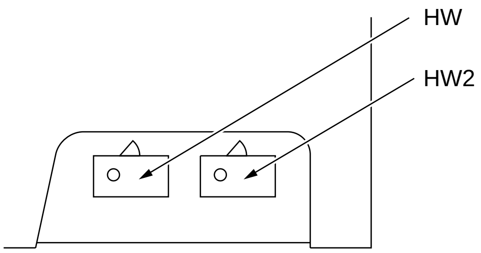


Fig. 4.2.6 Cassette Housing Switch

Mode	HW	HW2	S3
EJECT (Initial)	ON	OFF	OFF
INTAKE Detect	OFF	OFF	OFF
INTAKE END	OFF	OFF	ON
EJECT END	ON	ON	OFF

Table 4.2.1

Intake	: When a cassette is inserted, the HW switch goes OFF, which causes detection of cassette insertion. After this the motor begins intake action.
Intake complete	: When cassette intake is completed, in conjunction with the housing movement the main deck's switch lever slides, causing the MECHA board S3 (cassette switch) to be pressed, and intake completion is detected. (See Fig. 4.2.7)
Eject	: When ejecting the cassette, both switches HW and HW2 are momentarily ON, and eject completion is detected. And from here, it returns to the initial status of switch HW=ON, HW2=OFF.

4.2.4 Switches

This is a description of how the various switches equipped on the mechanism operate, as shown in table 4.2.2.

Switch name	Operation	Location
HW	Cassette intake detection switch	Fig. 4.2.6
HW2	Cassette eject detection switch	Fig. 4.2.6
S1 (Mecha board)	Standard cassette detection switch	Fig. 4.2.7 ①
S2 (Mecha board)	SUP reel lock release switch*	Fig. 4.2.7 ②
S3 (Mecha board)	Cassette intake completion detection switch	Fig. 4.2.7 ③

Table 4.2.2 Switches

* Condition of SUP reel lock release switch operation :
After cassette intake, tape is pulled out of the take-up side for loading, but when a virgin tape is inserted it switches over to pull out from the supply side since it is not possible to pull out from the take-up side.
Immediately following tape intake completion, when the Begin sensor detects tape leader the cassette housing motor moves further to the loading side and, after the switches lever release the SUP brake, S2 is turned ON and brake release is detected.

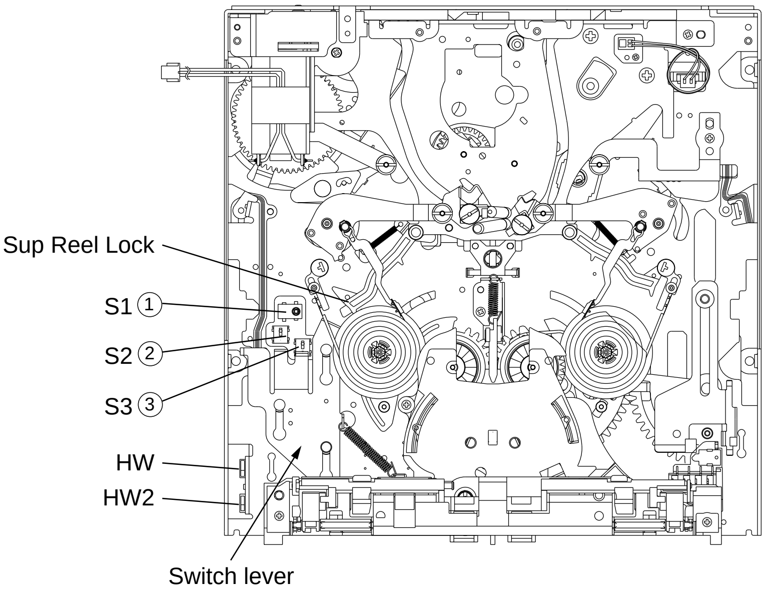


Fig. 4.2.7 Switch Location

4.2.5 Reel motor

The AG-DV2500 has adoped an independent one-reel motor, besides a capstan motor. As a result, quicker response when switching from Play to Reverse Search or Forward Search modes has been attained, greatly improving operability and the durability.

And as shown in table 4.2.3 the speeds of capstan search and FF/REW are also accelerated.

		AG-DV2500
CAPSTAN Search SPEED		Approx. 20X speed
FF/REW TIME	Mini (DVM60)	Under 75 sec.
	Standerd (DV270)	Under 200 sec.

Table 4.2.3

4.2.6 Tension

The AG-DV2500 have double tension control for supply/take-up.
The AG-DV2500 uses double tension control to regulate the tension differential caused by winding and modes used, obtaining a uniform tape tension for stable tape transport.

4.2.7 Mode sensor

The AG-DV2500's mode sensor adopts the variable resistor method (MECHA board VR1) which uses changes in resistance to detect the position of the mechanism. The changed voltage, brought about by changes in the resistance value due to mechanism position, is sent to DV/CPU IC302 to made to the A/D conversion. The mechanism position is judged by this.

Mode sensor voltage	Mechanism position	Mode
0.273 ± 0.03 V	UNLOAD END position	NO CASSETTE MODE
1.314 ± 0.03 V	BRAKE position	FF/REW → Modes in which tension band is used as brake for stopping
1.691 ± 0.03 V	FAST position	FF/REW MODE
2.111 ± 0.03 V	STOP position	STAND-BY OFF
2.716 ± 0.03 V	SEARCH position	PLAY/REC/SEARCH/STAND-BY ON

Table 4.2.4 Voltage and Mechanism Position Comparison

* Voltage figures shown are target values for software control, and may differ somewhat from the actual voltage. Please regard them as rough estimates.

4.3 SYSTEM CONTROL

4.3.1 Outline

The control system is comprised of the SYSCON CPU (IC2001) on the MAIN board assembly, and the VCR (MSD) CPU (IC302) on the DV/CPU board assembly. Both of these are connected by a bus called the MS_BUS, and communicate via serial data transfer

Communication type	Clock synchronous serial communication
Communication speed	1.68 Mbps
Data length	8bit x 25
Bit order	MSB head
Clock generation source	SYS CPU
Data direction	Full duplex

Table 4.3.1 MS_BUS Communication Settings

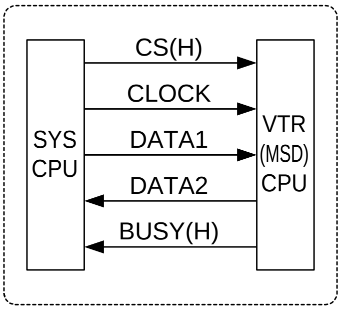


Fig. 4.3.1 MS BUS Connection

4.3.2 Communication specifications

(1) SYSCON CPU turns the CS from “L” → “H” and communication begins.
(2) SYSCON CPU confirms that the BUSY terminal is “L”, and transmits data at CLOCK1.68MHz as well as receives data from the VCR (MSD) CPU.
(3) VCR (MSD) CPU also sends and receives data in accordance with CLK. However, if it is not yet ready for communication it sets the BUSY terminal to “H” and notifies the SYSCON CPU.
(4) When the BUSY terminal is “H”, SYS CPU skips the current communication and waits until the next block (400 µs later) to see if it is “L” and then starts communication.
(5) After 25 Bytes are communicated, CS is set to “L” and communication ends.

4.3.3 Communication timing

In synchronization with internal reference sync, communication takes place once every 16.6 ms (NTSC) or 20 ms (PAL). Byte interval is 400 µs. When necessary the contents of the communication are changed at the 1st2nd field.

4.3.4 SYSCON (IC2001) CPU port functions

Pin No.	Port Name	Reference	I/O	Description
1	PE5	TP2004		Not used
2	PE6	HOUSING_SW	I	H : Insert cassette tape
3	PE7	CASS_SW	I	L : Complate to intake cassette tape
4	PD0	DAC_CS (H)	O	IC201 chip select
5	PD1	165_CS	O	IC2006/IC2007 chip select
6	PD2	4094_CS	O	IC3009/IC3010 chip select
7	PD3	AUD_DACTL_CS (L)	O	IC1006 (AUDIO DA) chip select
8	PD4	66311_DATA	O	IC2008 data
9	PD5	PON_MAIN (H)	O	
10	PD6	PON_UNIT (H)	O	
11	PD7	AUDREF12 (H)	O	Corresponds to audio level for consumer VTR.
12	CVCC	Power supply	+3V	
13	PC0	SDI	I	IC2006/IC2007 serial pin.
14	VSS	Power supply	GND	
15	PC1	S_DATA	O	IC2008/IC2010/IC201
16	PC2	S_CLK	O	IC2006/IC2008/IC2009/IC2010/IC201 clock
17	PC3	AUDIN_MUTE (H)	O	For muting the audio input
18	PC4	AUD_SYS_MUTE	O	For muting the audio output
19	PC5	AUDOUT_SMUT	O	For muting the search level
20	PC6	AUD_DACTL_CK	O	Audio DA clock
21	PC7	AUD_DACTL_DT	O	Audio DA data
22	PB0/TIOCA3	66311_CLK	O	IC208 clock
23	PB1/TIOCB3	66311_CSK	O	IC208 data
24	PB2/TIOCC3	WIRELESS_REM	I	Wireless remote input
25	PB3/TIOCD3	SERIAL_REM	I	Serial remote input
26	PB4/TIOCA4	NTSC (L)	O	VIDEO
27	PB5/TIOCB4	BWO (L)	O	VIDEO
28	PB6/TIOCA5	CPS (L)	O	VIDEO
29	PB7/TIOCB5	66311_RST	O	IC2008 RESET
30	PA0	ODD_EVEN	I	
31	PA1/TxD2	SYSCPU_TRXD	O	TCCS (For factory use)
32	PA2/RxD2	SYSCPU_TTXD	I	
33	PA3/SCK2	SYSCPU_TCK		YDC clock input
34	P10/TIOCA0	E2_DI	I	EEPROM
35	P11/TIOCB0	E2_DO	O	
36	P12/TIOCC0/TCLKA	E2_CLK	O	
37	P13/TIOCD0/TCLKB	E2_CS	O	
38	P14/TIOCA1/IRQ0	RTC_INT	I	RTC (Real time clock) IC2002
39	P15/TIOCB1/TCLKC	RTC_CS	O	
40	P16/TIOCA2/IRQ1	RTC_CLK	O	
41	P17/TIOCB2/TCLKD	RTC_SIO	I/O	
42	AVSS	Analog GND	GND	
43	P97/DA1			Not used
44	P96/DA0			Not used
45	P47/AN7			Not used
46	P46/AN6			Not used
47	P45/AN5			Not used
48	P44/AN4			Not used
49	P43/AN3	CIN_DC	I	
50	P42/AN2	LEVEL_DET_DC	I	Low battery detection

Pin No.	Port Name	Reference	I/O	Description
51	P41/AN1	METER_CH1	I	AUDIO indicator
52	P40/AN0	METER_CH2	I	
53	Vref	Analog reference	-	
54	AVCC	Analog power	+3V	
55	MD0	Mode terminal 0	I	Pullup (not used)
56	MD1	Mode terminal 1	I	Pullup (not used)
57	OSC2	Subclock (32.768kHz)	I	X2002
58	OSC1	Subclock (32.768kHz)	I	
59	RES	Reset input	I	From IC2004
60	NMI	NMI	I	Pullup (not used)
61	STBY	Standby	I	Pullup (not used)
62	VCC	Power	+3V	
63	XTAL	Clock	I	X2001
64	VSS	Power	GND	
65	EXTAL	External clock	I	X2001
66	FEW	Flush light enable	I	For Rewrite
67	MD2	Mode terminal 2	I	Operation mode setup
68	PF7/φ	System clock (TP2002)	O	
69	PF6	SWIN_NTSC	I	REAR NTSC/PAL slid SW
70	PF5	TP2021		Not used
71	PF4	FAN_STOP (H)	I	Not used
72	PF3/-ADTRG/IRQ3	OPERATE	I	Operate SW
73	PF2	EJECT	I	Pull-up from EJECT SW AL3V
74	PF1/BUZZ	TP2023	-	Not used
75	PF0/IRQ2	WAKE_UP	I	Start interrupt key input from standby mode
76	P30/TxD0	OSD_DATA	O	OSD (UART0)
77	P31/RxD0	OSD_CS	O	
78	P32/SCK0/SDA1/IRQ4	OSD_CLK	O	
79	P33/TxD1/SCL1	422_Tx	O	RS-422 (UART1)
80	P34/RxD1/SDA0	422_Rx	I	
81	P35/SCK1/SCL0/IRQ5	8029VD	I	IC208 CSYNC
82	P36	OSD_RST	O	OSD
83	P77/TxD3	MS_OUT	O	MS BUS (UART3)
84	P76/RxD3	MS_IN	I	
85	P75/TMO3/SCK3	MS_CLK	O	
86	P74/TMO2/MRES	SCR_LR	I	Not used
87	P73/TMO1	SCR_UD	I	Not used
88	P72/TMO0	V_MUTE	O	
89	P71/TMRI23/TMCI23	MSD_RESET		Reset output to VCR (MSD) microcomputer
90	P70/TMRI01/TMCI01	MSD_CS	O	Interface with VCR (MSD) microcomputer
91	PG0/IRQ6	SYS_OUTV	I	VIDEO V TIMING
92	PG1/IRQ7	SYS_INV	I	
93	PG2	MSD_READY	O	Interface with VCR (MSD) microcomputer
94	PG3	8029CS	O	IC208 control
95	PG4	8029CLK	O	
96	PE0	8029SDI	O	
97	PE1	8029SDO	I	
98	PE2	8029RST	O	
99	PE3	8029AMUTE	O	
100	PE4	V_PB (H)	O	VIDEO

Table 4.3.2 SYSCON Terminal Function

4.3.5 MSD CPU (IC302) port functions

Pin No.	Port Name	Reference	I/O	Description
1	ND	OPEN	-	Not used
2	ND	OPEN	-	Not used
3	VSS	D_GND	-	GND for digital
4	P01/D1	STD_CASS_SW	I	Standard cassette switch
5	P05/D5	START_SEL_2	O	Standard sensor sensibility selection
6	P11/D9	REEL_FWD_CTL	O	Reel motor direction control
7	NC (VDDF)	VOUT_25	I	Power for digital
8	VSS	D_GND	-	GND for digital
9	P26/D22/SBI1	EEPR_SDI	I	For EEPROM communication
10	P30/D24/SBT1	EEPR_SCL	O	For EEPROM communication
11	P35/D29/SBO3	MS_IN	O	Data for MS_BUS communication
12	P40/PWM1/TM0IO	DRUM_REF	O	DRUM_REF (MDA)
13	P51/IRQ1	DRUM_FG	I	DRUM_FG
14	P57/IRQ7	GND (10k)	O	Not used
15	NC (VDDF)	VOUT_25	I	Power for digital
16	P61/IRQ9	GNDÅi10kÅj	O	Not used
17 — 20	ND	OPEN	-	Not used
21	VDDH	AL_3VSYS	I	Power for digital
22	VOUT	VOUT_25	O	Power for VDD and VDDF
23	P14/D12	HOUSING_IN	O	Housing control
24	P03/D3	HOUSING2_SW	I	HW2/mini cassette eject switchs
25	P07/D7	END_SEL_2	O	End sensor sensibility
26	P13/D11	HOUSING_SW	I	Housing control
27	P20/D16/SBIB	CLN_SOL	O	Cleaner solenoid drive
28	P22/D18/SBTB	MSD_RDY	O	For MS_BUS communication
29	P32/D26/SBO2	LED_1SW	O	Front panel LED 1
30	VDDH	AL_3VSYS	I	Power for digital
31	VSS	D_GND	-	GND for digital
32	P53/IRQ3	GND (10k)	O	Not used
33	P25/D21/SBT0	MIC_3	O	CLK for cassette MIC communication
34	P33/D27/SBT2	EEPR_CS	O	For EEPROM communication
35	P63/IRQ11	GND (10k)	O	Not used
36	ND	OPEN	-	Not used
37	ND	OPEN	-	Not used
38	PU1/WE3/SRAS	OPEN	O	Not used
39	LON	AL_3VSYS (1k)	I	Use for regulator
40	NMIRQ	AL_3VSYS	O	Not used
41	VDDH	AL_3VSYS	I	Power for digital
42	P04/D4	START_SEL_1	O	Standard sensor sensibility selection
43	P06/D6	END_SEL_1	O	End sensor sensibility selection
44	P15/D13	HOUSING_OUT	O	Housing control
45	P17/D15	CAP_BRK	O	MDA control
46	NC (VSS)	D_GND	-	GND for digital
47	P23/D19/SBI0	MIC_1	O	For cassette MIC communication
48	P31/D25/SBI2	LED_2_SW	O	Front panel LED2
49	P37/D31/PWM0	CAP_REF	O	CAP_REF (MDA)
50	P41/PWM2/TM1IO	MECHA_REF	O	Mode/Housing motor control voltage
51	P43/PWM4	OPEN	O	Not used
52	P34/D28/SBI3	MS_OUT	I	Data for MS_VUS communication
53	P54/IRQ4	GND (10k)	O	Not used

Pin No.	Port Name	Reference	I/O	Description
54	P62/IRQ10	GND	O	Not used
55	P80/ICR0	DRUM_FG	I	DRUM_FG
56	P81/ICR1	CAP_FG	I	CAP_FG
57	PT2/SBT9	OPEN	O	Not used
58	PS1/SBO4	MDA_IN	O	For MDA communication
59	PU0/WE2/SCAS	OPEN	O	Not used
60	PS3/SBI5	OPEN	O	Not used
61	VOUT	VOUT_25	O	Power for VDD and VDDF
62	P00/D0	TAPE_LED	O	For TAPE_LED
63	VSS	D_GND	-	GND for digital
64	VDDH	AL_3VSYS	I	Power for digital
65	P16/D14	MECHA_VM_CTL	O	Switching the MECHA VM
66	P24/D20/SBO0	MIC_2	O	For cassette MIC communication
67	VSS	D_GND	-	GND for digital
68	P42/PWM3/TM2IO	REEL_REF	O	Reel motor control voltage
69	P55/IRQ5	GND (10k)	O	Not used
70	P52/IRQ2	DRUM_PG	I	DRUM_PG
71	P56/IRQ6	GND(10k)	O	Not used
72	P84/ICR4	SUP_REEL_SENSOR	I	SUP_REEL_SENSOR
73	VSS	D_GND	-	GND for digital
74	P60/IRQ8	GND (10k)	O	Not used
75	P83/ICR3	TU_REEL_SENSOR	I	TU_REEL_SENSOR
76	PS4/SBO5	OPEN	O	Not used
77	PT0/SBI9	OPEN	O	Not used
78	PR4/A23/KI4/SDCLKO	GND (10k)	O	Not used
79	PS5/SBT5	OPEN	O	Not used
80	PT1/SBO9	OPEN	O	Not used
81	VSS	D_GND	-	GND for digital
82	P02/D2	SP_LOCK_SW	I	SP lock detection switch
83	P10/D8	REEL_BRK	O	Reel motor brake
84	P12/D10	CASETTE_SW	I	CASSETTE SW
85	P21/D17/SBOB	A_MUTE	O	Audio mute
86	P27/D23/SBO1	EEPR_SDO	O	EEPROM communication
87	P36/D30/SBT3	MS_CLK	I	CLK for MS_BUS communication
88	P50/IRQ0	MSD CS	I	MSD CS
89	ND	OPEN	-	Not used
90	P90/ICR8	FRP	I	Interface with IC103
91	P82/ICR2	REEL_FG	I	Reel FG input
92	P86/ICR6	SRV_FRP	I	Interface with IC103
93	P85/ICR5	HID1	I	Interface with IC103
94	P87/ICR7	DET_VD	I	Analog input detection
95	PR6/A25/KI6	GND (10k)	O	Not used
96	PS2/SBT4	MDA_CLK	O	For MDA communication
97	VDDH	AL_3VSYS	I	Power for digital
98	VSS	D_GND	-	GND for digital
99 — 108	ND	OPEN	-	Not used
109	NC (VSS)	D_GND	-	GND for digital
110	VDD2	AL_3VSYS	I	Power for digital
111	P92/ICR10	SPA	I	Interface with IC103
112	VSS	D_GND	-	GND for digital

Pin No.	Port Name	Reference	I/O	Description
113	P91/ICR9	TSR	I	Interface with IC103
114	PR3/A22/KI3/SCKE	GND (10k)	O	Not used
115	PR5/A24/KI5/SDCLKI	GND (10k)	O	Not used
116	PQ2/A18	DV_RST	O	Interface with IC103
117	PS0/SBI4	MDA_CS	O	For MDA communication
118	PR7/KI7/PWM5	GND (10k)	O	Not used
119 — 127	ND	OPEN	-	Not used
128	PA1/SBO6	OPEN	O	Not used
129	P94/ICR12	SRV_TRK	I	Interface with IC103
130	PA3/SBI7	OPEN	O	Not used
131	PA0/SBI6	OPEN	O	Not used
132	PA2/SBT6	OPEN	O	Not used
133	PQ1/A17	CLK27SEL	O	Interface with IC103
134	PR0/A19/KI0	GND (10k)	O	Not used
135	PQ0/A16	NTSC_L	I	NTSC_L
136	PR2/A21/KI2/SWE	GND (10k)	O	Not used
137	PR1/A20/KI1	GND (10k)	O	Not used
138 — 146	ND	OPEN	-	Not used
147	PB3/WDOVF	OPEN	O	Not used
148	P93/ICR11	OUT_V	I	MVD0 (DVSYS)
149	PA5/SBT7	OPEN	O	Not used
150	PA4/SBO7	OPEN	O	Not used
151	PB2/IRQ14	OPEN	O	Not used
152	VSS	D_GND	-	GND for digital
153	PL5/PWM6	OPEN	O	Not used
154	PL4/TM7IO	V_MUTE	I	V MUTE (DVSYS)
155	PL3/TM6IO	OPEN	O	Not used
156	PL2/TM5IO	SCR_UD	O	Not used
157 — 165	ND	OPEN	-	Not used
166	PC3/SY0OT3	OPEN	-	Not used
167	PB0/IRQ12	OPEN	O	Not used
168	PB1/IRQ13	INV	I	ODD/EVEN distinguish
169	PB4/BR	OPEN	O	Not used
170	VSS	D_GND	-	GND for digital
171	PL0/TM3IO	OPEN	O	Not used
172	PK6/TM36IO	HID3	O	Interface with IC1
173	PL1/TM4IO	SCR_LR	O	Not used
174	PK4/TM34IO	PBH	O	Interface with IC1
175	PK3/TM33IO	REEL_LED	O	TU_REEL_LED
176 — 184	ND	OPEN	-	Not used
185	PC5/SY1OT1/SBO8	OPEN	O	Not used
186	PC0/SY0OT0	HID1	O	TO P/R IC1
187	PB5/BG	OPEN	O	Not used
188	PC2/SY0OT2	OPEN	-	Not used
189	PC4/SY1OT0/SBI8	OPEN	I	Not used
190	OSCI	Supply the external clock	I	40MHz
191	PK2/TM32IO	REC_SAFE	I	REC_SAFTY_SW
192	PK0/TM30IO	OPEN	O	Not used
193	VDD	VOUT_25	I	Power for digital
194	VSS	D_GND	-	GND for digital

Pin No.	Port Name	Reference	I/O	Description
195 — 203	ND	OPEN	-	Not used
204	VSS	D_GND	-	GND for digital
205	PD0/TM10IO	OPEN	O	Not used
206	PC1/SY0OT1	OPEN	-	Not used
207	VDD2	AL_3VSYS	I	Power for digital
208	PC6/SY1OT2/SBT8	OPEN	-	Not used
209	OSCO		O	40MHz
210	FRQS	VTR_TAUX	I	For rewrite
211	PK7/TM37IO	MONI_CHG	O	Interface with P/R
212	CKSEL	VTR_TTxD	I	For rewrite
213	MMOD1	VTR_TCK	I	For rewrite
214 — 222	ND	OPEN	-	Not used
223	NC (VSS)	D_GND	-	GND for digital
224	PE1/TM20IOB	GND (10k)	O	Not used
225	PC7/SY1OT3	OPEN	-	Not used
226	PD3/TM13IO	OPEN	O	Not used
227	PD2/TM12IO	OPEN	O	Not used
228	MMOD0	VTR_TRXD	I	For rewrite
229	PJ1/EXMOD1	VTR_TAUX3	I	For rewrite
230	PK5/TM35IO	REC_H	O	Interface with P/R
231	VDDH	AL_3VSYS	I	Power for digital
232	PVSS	A_GND	I	GND for analog
233 — 241	ND	OPEN	-	Not used
242	VDD	VOUT_25	I	Power for digital
243	PE7/TM23IOB	GND (10k)	O	Not used
244	PD1/TM11IO	OPEN	O	Not used
245	PE3/TM21IOB	FFREW_H	O	Not used
246	PD5/TM15IO	OPEN	O	Not used
247	PVDD	AL_3VSYS	I	Power for analog
248	PP7/ADM15/A15	ADM15	I/O	Interface with IC103
249	PK1/TM31IO	OPEN	O	Not used
250	RST	VTR_RESET	I	For rewrite
251 — 261	ND	OPEN	-	Not used
262	PE4/TM22IOA	GND (10k)	O	Not used
263	PD4/TM14IO	OPEN	O	Not used
264	PE5/TM22IOB	GND (10k)	O	Not used
265	VDD2	AL_3VSYS	I	Power for digital
266	PP5/ADM13/A13	ADM13	I/O	Interface with IC103
267	PP3/ADM11/A11	ADM11	I/O	Interface with IC103
268	PP4/ADM12/A12	ADM12	I/O	Interface with IC103
269	VSS	D_GND	-	GND for digital
270	VSS	D_GND	-	GND for digital
271	ND	OPEN	-	Not used
272	VDD	VOUT_25	I	Power for digital
273	VSS	D_GND	-	GND for digital
274	P70/AN24	GND (10k)	-	Not used
275	PI6/AN22	GND (10k)	-	Not used
276	PI0/AN16	GND (10k)	-	Not used
277	PH0/AN8	THERM_MSD	I	Temperature sensor
278	PG0/AN0	START_SENSOR	I	START_SENSOR

Pin No.	Port Name	Reference	I/O	Description
279	ND	OPEN	-	Not used
280	TRST	VSS (10k)	-	Not used
281	PF0/TM24IOA	OPEN	O	Not used
282	PE2/TM21IOA	DRUM_FG	O	DRUM_FG
283	PE0/TM20IOA	GND (10k)	O	Not used
284	PF1/TM24IOB	OPEN	O	Not used
285	PP1/ADM9/A9	ADM9	I/O	Interface with 3.5LSI
286	PJ0/EXMOD0	GND (10k)	I	Memory mode selection
287	PO4/ADM4/A4	ADM4	I/O	Interface with IC103
288	PO7/ADM7/A7	ADM7	I/O	Interface with IC103
289	PO1/ADM1/A1	ADM1	I/O	Interface with IC103
290	PN5/AS	DALE	O	Interface with IC103
291	PN4/DK	DV_WAIT	I	Interface with IC103
292	PM4/CS4	OPEN	O	Not used
293	VDDB	AL_3VSYS	I	Power for digital
294	PI4/AN20	GND (10k)	-	Not used
295	PI1/AN17	GND (10k)	-	Not used
296	PH1/AN9	REEL_CURENT	I	Reel motor current
297	PG1/AN1	END_SENSOR	I	E_SENSOR
298	VREFH	AL_3VSYS (for analog)	I	A/D GND (H)
299	VDD	VOUT_25	I	Power for digital
300	TMS	VDD2 (10k)	-	Not used
301	PE6/TM23IOA	GND (10k)	O	Not used
302	PF2/TM25IOA	OPEN	O	Not used
303	PF3/TM25IOB	GND (10k)	O	Not used
304	PP0/ADM8/A8	ADM8	I/O	Interface with IC103
305	PP6/ADM14/A14	ADM14	I/O	Interface with IC103
306	PP2/ADM10/A10	ADM10	I/O	Interface with IC103
307	PN3/RE	DRE	O	Interface with IC103
308	PN1/WE1/SDQM1	OPEN	O	Not used
309	PM2/CS2	DV_CS	O	Interface with IC103
310	PM5/RWSEL	RWSEL	O	Interface with IC103
311	PM0/CS0	OPEN	O	Not used
312	PI2/AN18	GND (10k)	-	Not used
313	PH6/AN14	EJECT_MSD	-	EJECT brings up
314	PH7/AN15	GND (10k)	-	Not used
315	PH4/AN12	GND (10k)	-	Not used
316	PH2/AN10	REEL_ECR	I	Reference value for reel torque control
317	PG4/AN4	MIC_2	I	AD for MIC IDBOARD detection
318	PG2/AN2	DEW_SENSOR	I	DEW_SENSOR
319	VREFL	A_GND	I	A/D GND (L)
320	PV1/SBOA	DAC_DATA	O	D/A control
321	TCK	VDD2 (10k)	-	Not used
322	TDI	VDD2 (10k)	-	Not used
323	ND	OPEN	-	Not used
324	ND	OPEN	-	Not used
325	VDDB	AL_3VSYS	I	Power for digital
326	PO2/ADM2/A2	ADM2	I/O	Interface with IC103
327	PO5/ADM5/A5	ADM5	I/O	Interface with IC103
328	VDD	VOUT_25	I	Power for digital

Pin No.	Port Name	Reference	I/O	Description
329	VSS	D_GND	-	GND for digital
330	PN0/WE0/SDQM0	DWE	O	Interface with IC103
331	PM1/CS1	OPEN	O	Not used
332	PI7/AN23	GND (10k)	-	Not used
333	PI3/AN19	GND (10k)	-	Not used
334	PH3/AN11	HOUS_CURRENT	I	Tension sensor
335	PG5/AN5	MIC_1	I	AD for MIC IDBOARD detection
336	AVDD	AL_3VSYS	I	Power for analog
337	VSS	D_GND	-	GND for digital
338	PG6/AN6	GND (10k)	-	Not used
339	PV2/SBTA	DAC_CLK	O	D/A control
340 — 343	ND	OPEN	-	Not used
344	PO6/ADM6/A6	ADM6	I/O	Interface with IC103
345	PO3/ADM3/A3	ADM3	I/O	Interface with IC103
346	VDDB	AL_3VSYS	I	Power for digital
347	PO0/ADM0/A0	ADM0	I/O	Interface with IC103
348	PN2/SYSCLK	OPEN	O	Not used
349	PM3/CS3	OPEN	O	Not used
350	VSS	D_GND	-	GND for digital
351	AVSS	A_GND	I	GND for analog
352	PI5/AN21	GND (10k)	-	Not used
353	PH5/AN13	GND (10k)	-	Not used
354	PG7/AN7	MODE_SENS	I	Mode sensor (mecha position)
355	PG3/AN3	MIC_3	I	AD for MIC IDBOARD detection
356	PV3/ADTRG	AL_3VSYS	-	Not used
357	PV0/SBIA	DAC_CS	O	D/A control
358	TDO	OPEN	-	Not used
359 — 360	ND	OPEN	-	Not used

Table 4.3.3 MSD Terminal Function

4.3.6 RS-422A command list

COMMAND FROM CONTROLLER					RETURN FROM			
CMD -1	Data Count	CMD -2	DATA -1	NAME	CMD -1	Data Count	CMD -2	NAME
0	0	0C	-	Local Disable	1	0	01	ACK
0	0	11	-	Device Type Request	1	2	11	Device Type
0	0	1D	-	Local Enable	1	0	01	ACK
2	0	00	-	Stop	1	0	01	ACK
2	0	01	-	Play	1	0	01	ACK
2	0	02	-	Rec	1	0	01	ACK
2	0	03	-	StillÅiJVC OnlyÅj	1	0	01	ACK
2	0	04	-	Standby Off	1	0	01	ACK
2	0	05	-	Standby On	1	0	01	ACK
2	0	0F	-	Eject	1	0	01	ACK
2	0	10	-	Fast Fwd	1	0	01	ACK
2	X	11	-	Jog Fwd	1	0	01	ACK (Switch to shuttle)
2	X	12	-	Var Fwd	1	0	01	ACK (Switch to shuttle)
2	X	13	-	Shuttle Fwd	1	0	01	ACK
2	0	20	-	Rewind	1	0	01	ACK
2	X	21	-	Jog Rev	1	0	01	ACK (Switch to shuttle)
2	X	22	-	Var Rev	1	0	01	ACK (Switch to shuttle)
2	X	23	-	Shuttle Rev	1	0	01	ACK
2	0	30	-	Preroll	1	0	01	ACK
2	4	31	-	Cue Up With Data	1	0	01	ACK
2	0	54	-	Anti-clog Timer Disable	1	0	01	ACK
2	0	55	-	Anti-clog Timer Enable	1	0	01	ACK
4	4	04	-	Time Code Preset	1	0	01	ACK
4	0	10	-	In Entry	1	0	01	ACK
4	4	14	-	In Data Preset	1	0	01	ACK
4	0	18	-	In + Shift	1	0	01	ACK
4	0	19	-	In - Shift	1	0	01	ACK
4	0	20	-	In Reset	1	0	01	ACK
4	0	24	-	In Recall	1	0	01	ACK
4	4	31	-	Preroll Time Preset	1	0	01	ACK
4	X	3E	-	Rec Inhibit Preset	1	0	01	ACK
6	1	0A	01	TC Gen Data Sense	7	4	08	Gen Time Data
6	1	0A	10	TC Gen Data Sense	7	4	09	Gen UB Data (UB: Fix to 0)
6	1	0A	11	TC Gen Data Sense	7	8	08	Gen TC & UB Data (UB: Fix to 0)
6	1	0C	01	Current Time Sense	7	4	04	TC (main) Data
6	1	0C	02	Current Time Sense	7	4	06	TC (main) Data
6	1	0C	03	Current Time Sense	7	4	04	TC (main) Data
6	1	0C	10	Current Time Sense	7	4	05	UB (main) Data (UB: Fix to 0)
6	1	0C	11	Current Time Sense	7	8	04	TC & UB (main) Data (UB: Fix to 0)
6	1	0C	20	Current Time Sense	7	4	07	UB (main) Data (UB: Fix to 0)
6	1	0C	22	Current Time Sense	7	8	06	TC & UB (main) Data (UB: Fix to 0)
6	1	0C	30	Current Time Sense	7	4	05	UB (main) Data (UB: Fix to 0)
6	1	0C	33	Current Time Sense	7	8	04	TC & UB (main) Data (UB: Fix to 0)
6	0	10	-	In Data Sense	7	4	10	In Data
6	1	20	-	Status Sense	7	X	20	Status Data
6	0	2B	-	Remain Time Sense	7	6	2B	Remain Data
6	0	31	-	Preroll Time Sense	7	3	31	Preroll Time Data
6	0	36	-	Timer Mode Sense	7	1	36	Timer Mode Data
6	0	3E	-	Rec Inhibit Sense	7	2	3E	Rec Inhibit Status

Table 4.3.4 RS-422A Command List

SECTION 5

BLOCK DIAGRAMS
SCHEMATIC DIAGRAMS
CIRCUIT BOARD DIAGRAMS

NOTE:
BE SURE TO MAKE YOUR ORDERS OF REPLACEMENT PARTS ACCORDING TO PARTS LIST, SECTION 6

CAUTION

THE ▭ MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

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  5.1.1 Circuit board location 5-1
5.2 SYSTEM CONTROL BLOCK DIAGRAM 5-2
5.3 VIDEO BLOCK DIAGRAM 5-3
5.4 AUDIO BLOCK DIAGRAM 5-4
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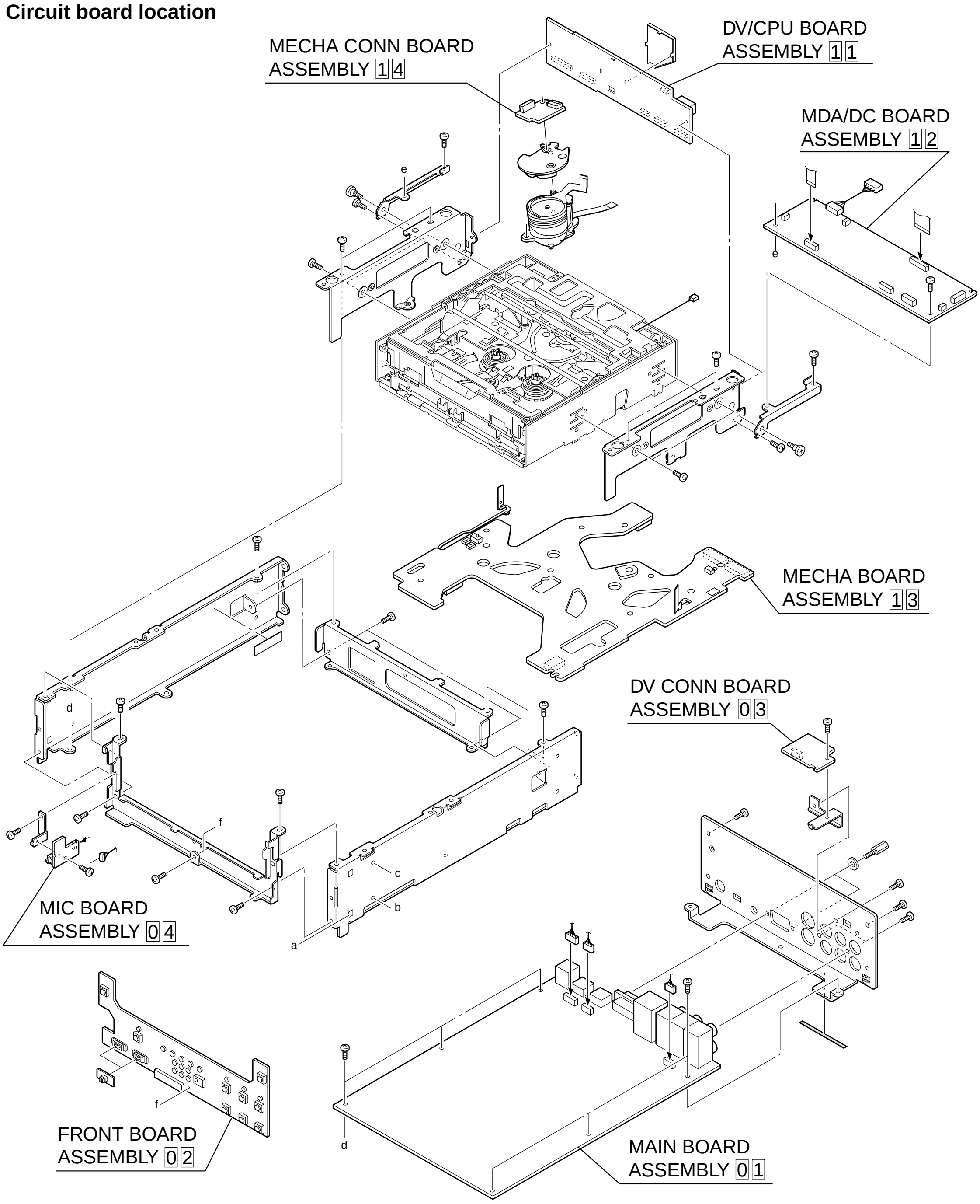
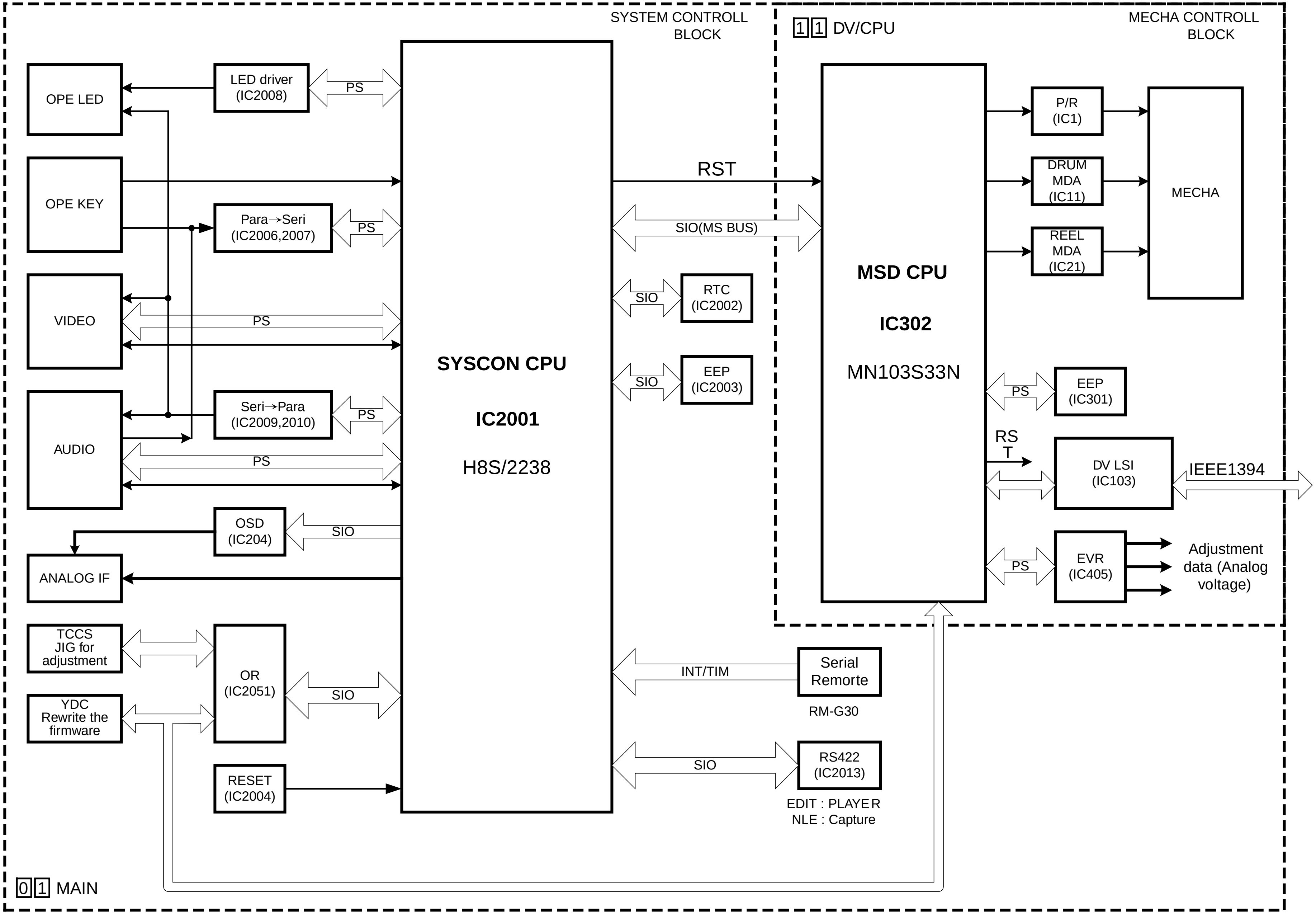
5.1 INDEX TO PAGES OF MAIN BOARDS AND CIRCUIT BOARD LOCATION

5.1.1 Circuit board location

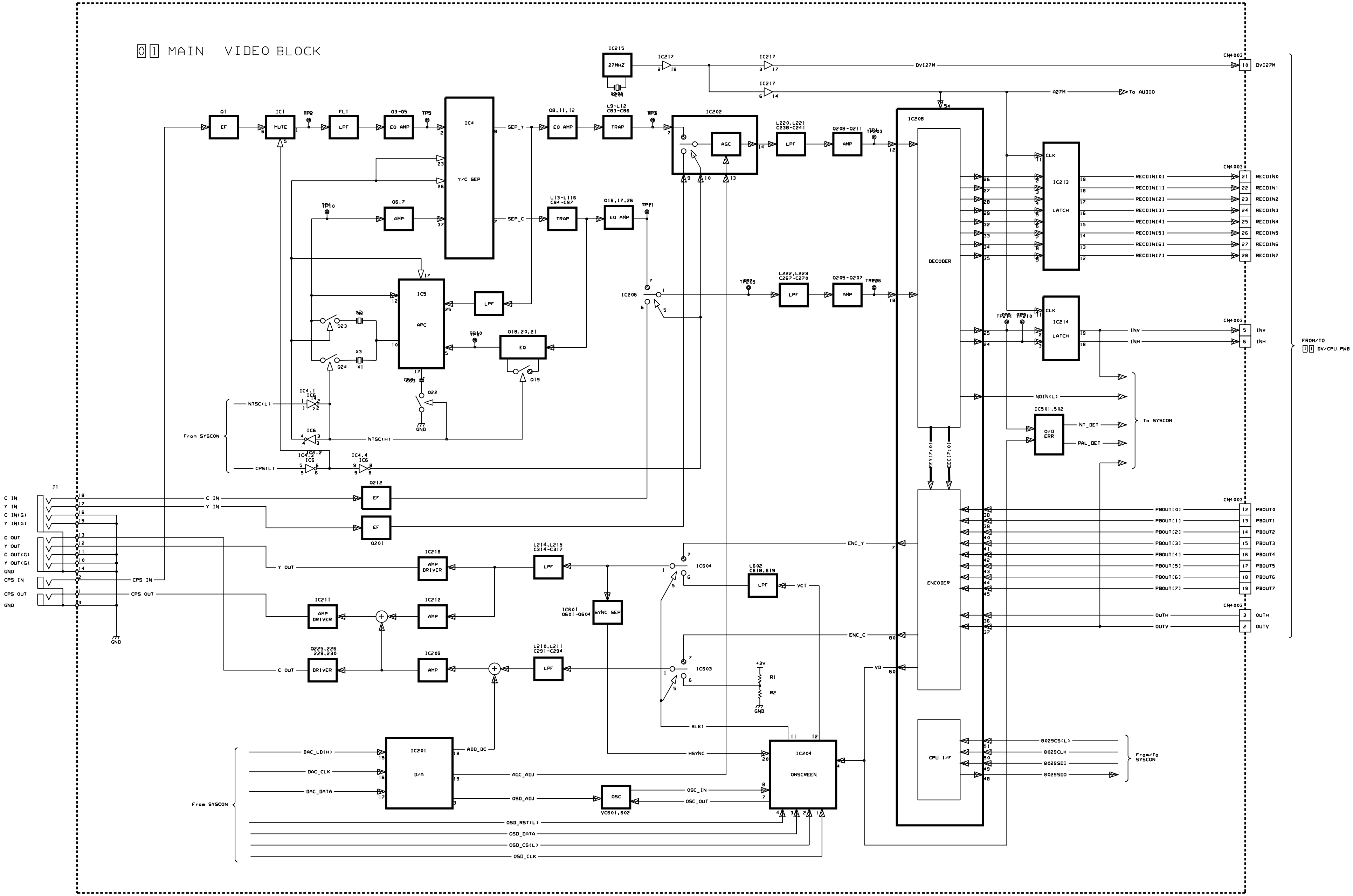

DV/CPU BOARD ASSEMBLY 11
MECHA CONN BOARD ASSEMBLY 14
MDA/DC BOARD ASSEMBLY 12
MECHA BOARD ASSEMBLY 13
DV CONN BOARD ASSEMBLY 03
MIC BOARD ASSEMBLY 04
FRONT BOARD ASSEMBLY 02
MAIN BOARD ASSEMBLY 01
a
b
c
d
e
f

Board No.	Board Name	Page of diagram		
		Block diagram	Schematic diagram	Circuit board
01	MAIN	5-2, 5-3, 5-4	5-7 to 5-12	5-13, 5-14
02	FRONT	—	5-25	5-26
03	DV CONN	—	5-25	5-26
04	MIC	5-4	5-25	5-26
11	DV/CPU	5-2, 5-4	5-15 to 5-18	5-19
12	MDA/DC	—	5-21 to 5-24	5-20
13	MECHA	—	5-27	5-28, 5-29
14	MECHA CONN	—	5-27	5-29

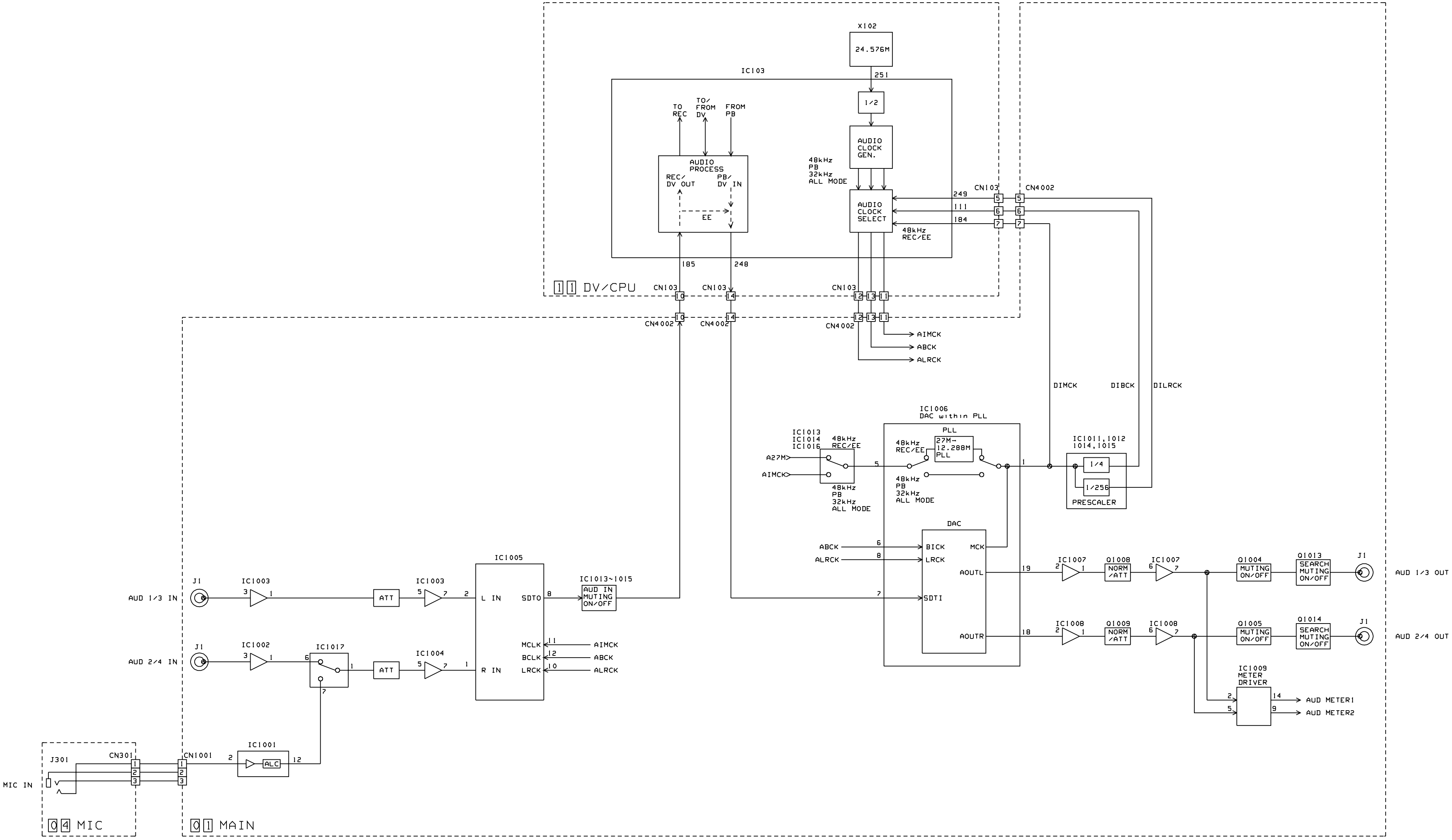
5.2 SYSTEM CONTROL BLOCK DIAGRAM


SYSTEM CONTROLL BLOCK
11 DV/CPU
MECHA CONTROLL BLOCK
OPE LED
LED driver (IC2008)
PS
OPE KEY
Para→Seri (IC2006,2007)
PS
VIDEO
PS
AUDIO
Seri→Para (IC2009,2010)
PS
PS
OSD (IC204)
SIO
ANALOG IF
TCCS JIG for adjustment
YDC Rewrite the firmware
OR (IC2051)
SIO
RESET (IC2004)
SYSCON CPU
IC2001
H8S/2238
RST
SIO(MS BUS)
SIO
RTC (IC2002)
SIO
EEP (IC2003)
INT/TIM
Serial Remorte
RM-G30
SIO
RS422 (IC2013)
EDIT : PLAYER
NLE : Capture
MSD CPU
IC302
MN103S33N
P/R (IC1)
DRUM MDA (IC11)
REEL MDA (IC21)
MECHA
PS
EEP (IC301)
RST
DV LSI (IC103)
IEEE1394
PS
EVR (IC405)
Adjustment data (Analog voltage)
01 MAIN

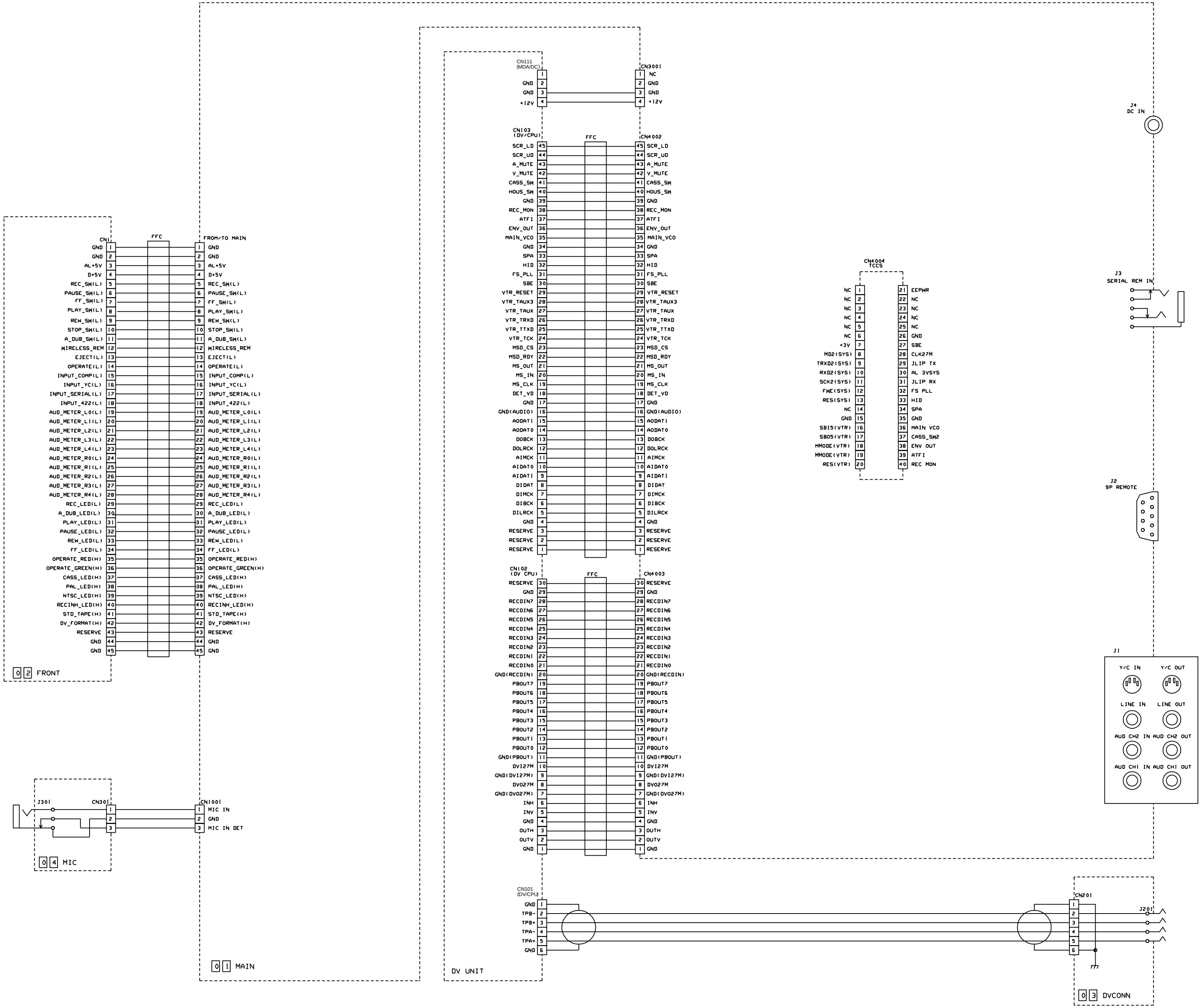
5.3 VIDEO BLOCK DIAGRAM


01 MAIN VIDEO BLOCK
J1
C IN
Y IN
C IN(G)
Y IN(G)
C OUT
Y OUT
C OUT(G)
Y OUT(G)
GND
CPS IN
CPS OUT
GND
Q1
EF
IC1
MUTE
TP2
FL1
LPF
Q3~Q5
EQ AMP
TP3
IC4
Y/C SEP
SEP_Y
SEP_C
Q6,7
AMP
TP10
IC5
APC
LPF
Q23
Q24
X2
X3
X1
C63
Q22
GND
Q18,20,21
EQ
Q19
TP6
IC4.1
IC6
NTSC(L)
From SYSCON
NTSC(H)
IC4.2
IC4.3
CPS(L)
IC4.4
Q212
EF
Q201
Q8,11,12
EQ AMP
L9~L12
C83~C86
TRAP
TP5
L13~L116
C94~C97
TRAP
Q16,17,26
EQ AMP
TP71
IC215
27MHZ
X201
IC217
DVI27M
A27M
To AUDIO
IC202
AGC
L220,L221
C238~C241
LPF
Q208~Q211
AMP
TP203
IC206
TP205
L222,L223
C267~C270
LPF
Q205~Q207
AMP
TP206
IC208
DECODER
EEY[7:0]
EEC[7:0]
ENCODER
CPU I/F
IC213
LATCH
CLK
RECDIN[0]
RECDIN[1]
RECDIN[2]
RECDIN[3]
RECDIN[4]
RECDIN[5]
RECDIN[6]
RECDIN[7]
CN4003
DVI27M
RECDIN0
RECDIN1
RECDIN2
RECDIN3
RECDIN4
RECDIN5
RECDIN6
RECDIN7
IC214
LATCH
CLK
TP211
TP210
INV
INH
FROM/TO
11 DV/CPU PWB
NOIN(L)
IC501,502
O/D ERR
NT_DET
PAL_DET
To SYSCON
PBOUT[0]
PBOUT[1]
PBOUT[2]
PBOUT[3]
PBOUT[4]
PBOUT[5]
PBOUT[6]
PBOUT[7]
PBOUT0
PBOUT1
PBOUT2
PBOUT3
PBOUT4
PBOUT5
PBOUT6
PBOUT7
OUTH
OUTV
8029CS(L)
8029CLK
8029SDI
8029SDO
From/To SYSCON
IC218
AMP DRIVER
Y OUT
L214,L215
C314~C317
LPF
IC604
L602
C618,619
LPF
VC1
ENC_Y
IC601
Q601~Q604
SYNC SEP
IC211
AMP DRIVER
IC212
AMP
Q225,226
229,230
DRIVER
C OUT
IC209
AMP
L210,L211
C291~C294
LPF
IC603
ENC_C
VD
+3V
R1
R2
GND
BLK1
HSYNC
IC204
ONSCREEN
IC201
D/A
DAC_LD(H)
DAC_CLK
DAC_DATA
ADD_DC
AGC_ADJ
OSD_ADJ
OSC
VC601,602
OSC_IN
OSC_OUT
OSD_RST(L)
OSD_DATA
OSD_CS(L)
OSD_CLK
From SYSCON

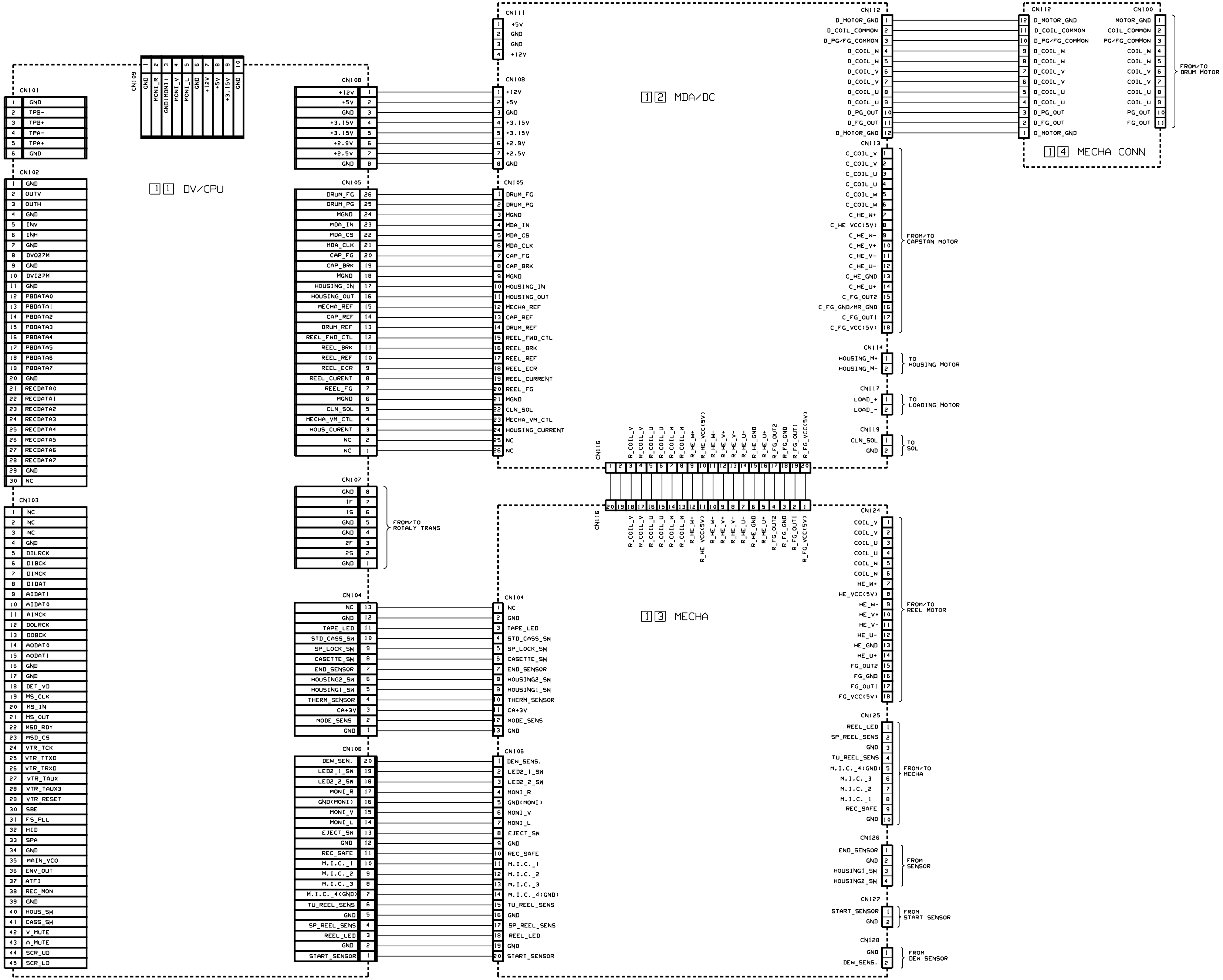
5.4 AUDIO BLOCK DIAGRAM


X102
24.576M
251
IC103
1/2
TO REC
TO/ FROM DV
FROM PB
AUDIO PROCESS
REC/ DV OUT
PB/ DV IN
EE
AUDIO CLOCK GEN.
48kHz PB 32kHz ALL MODE
AUDIO CLOCK SELECT
48kHz REC/EE
CN103
CN4002
249
111
184
185
248
11 DV/CPU
CN103
CN4002
AIMCK
ABCK
ALRCK
DIMCK
DIBCK
DILRCK
IC1006 DAC within PLL
PLL
27M→ 12.288M PLL
48kHz REC/EE
48kHz PB 32kHz ALL MODE
IC1013 IC1014 IC1016
A27M
AIMCK
IC1011,1012 1014,1015
1/4
1/256
PRESCALER
DAC
ABCK
ALRCK
BICK
LRCK
MCK
AOUTL
AOUTR
SDTI
IC1007
Q1008
NORM /ATT
Q1004
MUTING ON/OFF
Q1013
SEARCH MUTING ON/OFF
IC1008
Q1009
Q1005
Q1014
J1
AUD 1/3 OUT
AUD 2/4 OUT
IC1009 METER DRIVER
AUD METER1
AUD METER2
AUD 1/3 IN
AUD 2/4 IN
IC1003
IC1002
IC1017
ATT
IC1004
IC1005
L IN
R IN
SDTO
MCLK
BCLK
LRCK
IC1013~1015
AUD IN MUTING ON/OFF
AIMCK
ABCK
ALRCK
IC1001
ALC
CN1001
J301
CN301
MIC IN
04 MIC
01 MAIN

5.5 OVERALL WIRING DIAGRAM

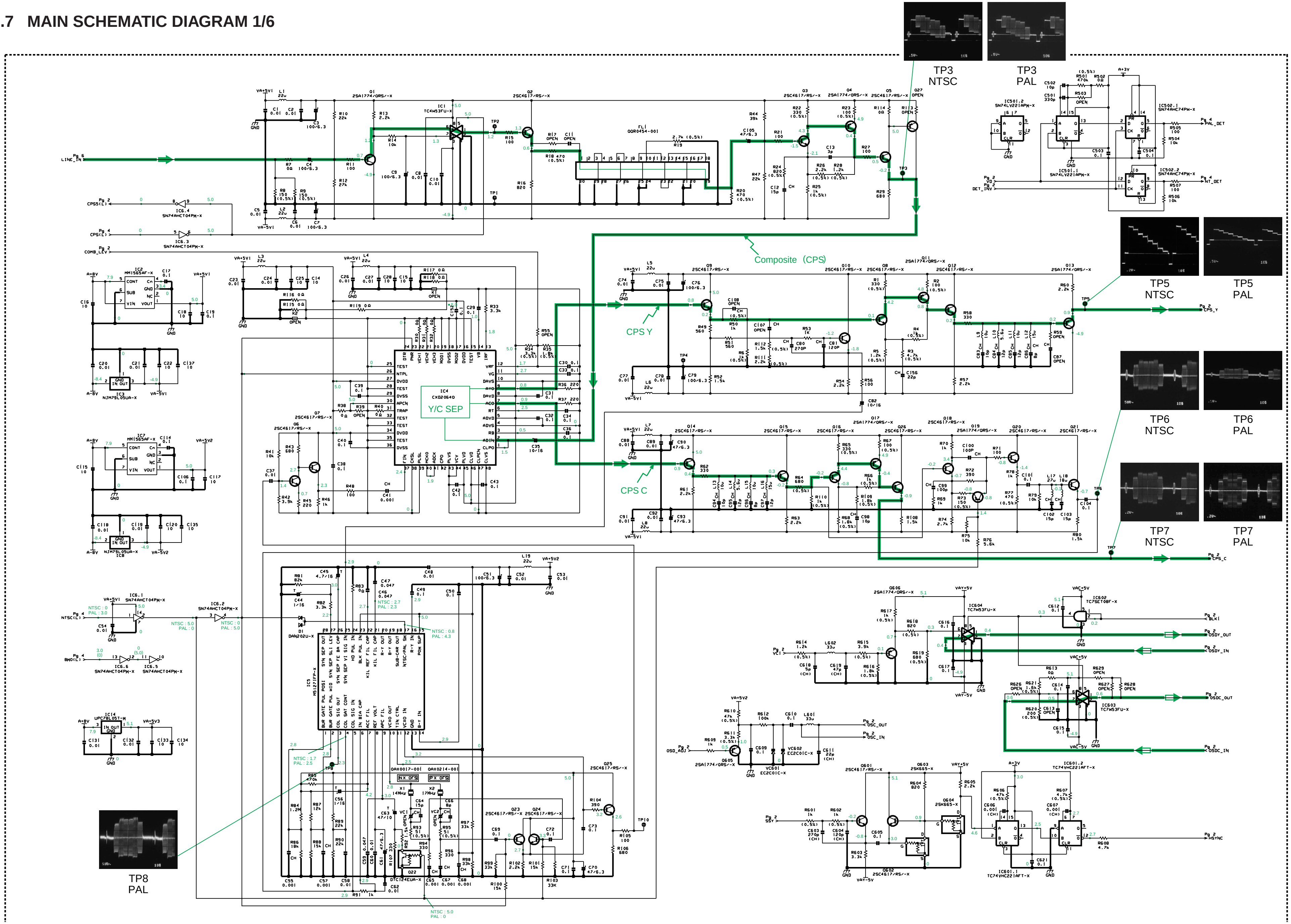

CN1
GND 1
GND 2
AL+5V 3
D+5V 4
REC_SW(L) 5
PAUSE_SW(L) 6
FF_SW(L) 7
PLAY_SW(L) 8
REW_SW(L) 9
STOP_SW(L) 10
A_DUB_SW(L) 11
WIRELESS_REM 12
EJECT(L) 13
OPERATE(L) 14
INPUT_COMP(L) 15
INPUT_YC(L) 16
INPUT_SERIAL(L) 17
INPUT_422(L) 18
AUD_METER_L0(L) 19
AUD_METER_L1(L) 20
AUD_METER_L2(L) 21
AUD_METER_L3(L) 22
AUD_METER_L4(L) 23
AUD_METER_R0(L) 24
AUD_METER_R1(L) 25
AUD_METER_R2(L) 26
AUD_METER_R3(L) 27
AUD_METER_R4(L) 28
REC_LED(L) 29
A_DUB_LED(L) 30
PLAY_LED(L) 31
PAUSE_LED(L) 32
REW_LED(L) 33
FF_LED(L) 34
OPERATE_RED(H) 35
OPERATE_GREEN(H) 36
CASS_LED(H) 37
PAL_LED(H) 38
NTSC_LED(H) 39
RECINH_LED(H) 40
STD_TAPE(H) 41
DV_FORMAT(H) 42
RESERVE 43
GND 44
GND 45
FFC
FROM/TO MAIN
1 GND
2 GND
3 AL+5V
4 D+5V
5 REC_SW(L)
6 PAUSE_SW(L)
7 FF_SW(L)
8 PLAY_SW(L)
9 REW_SW(L)
10 STOP_SW(L)
11 A_DUB_SW(L)
12 WIRELESS_REM
13 EJECT(L)
14 OPERATE(L)
15 INPUT_COMP(L)
16 INPUT_YC(L)
17 INPUT_SERIAL(L)
18 INPUT_422(L)
19 AUD_METER_L0(L)
20 AUD_METER_L1(L)
21 AUD_METER_L2(L)
22 AUD_METER_L3(L)
23 AUD_METER_L4(L)
24 AUD_METER_R0(L)
25 AUD_METER_R1(L)
26 AUD_METER_R2(L)
27 AUD_METER_R3(L)
28 AUD_METER_R4(L)
29 REC_LED(L)
30 A_DUB_LED(L)
31 PLAY_LED(L)
32 PAUSE_LED(L)
33 REW_LED(L)
34 FF_LED(L)
35 OPERATE_RED(H)
36 OPERATE_GREEN(H)
37 CASS_LED(H)
38 PAL_LED(H)
39 NTSC_LED(H)
40 RECINH_LED(H)
41 STD_TAPE(H)
42 DV_FORMAT(H)
43 RESERVE
44 GND
45 GND
0 2 FRONT
J301
CN301
1
2
3
0 4 MIC
CN1001
1 MIC IN
2 GND
3 MIC IN DET
0 1 MAIN
CN111
(MDA/DC)
1
GND 2
GND 3
+12V 4
CN3001
1 NC
2 GND
3 GND
4 +12V
CN103
(DV/CPU)
SCR_LD 45
SCR_UD 44
A_MUTE 43
V_MUTE 42
CASS_SW 41
HOUS_SW 40
GND 39
REC_MON 38
ATFI 37
ENV_OUT 36
MAIN_VCO 35
GND 34
SPA 33
HID 32
FS_PLL 31
SBE 30
VTR_RESET 29
VTR_TAUX3 28
VTR_TAUX 27
VTR_TRXD 26
VTR_TTXD 25
VTR_TCK 24
MSD_CS 23
MSD_RDY 22
MS_OUT 21
MS_IN 20
MS_CLK 19
DET_VD 18
GND 17
GND(AUDIO) 16
AODAT1 15
AODAT0 14
DOBCK 13
DOLRCK 12
AIMCK 11
AIDAT0 10
AIDAT1 9
DIDAT 8
DIMCK 7
DIBCK 6
DILRCK 5
GND 4
RESERVE 3
RESERVE 2
RESERVE 1
FFC
CN4002
45 SCR_LD
44 SCR_UD
43 A_MUTE
42 V_MUTE
41 CASS_SW
40 HOUS_SW
39 GND
38 REC_MON
37 ATFI
36 ENV_OUT
35 MAIN_VCO
34 GND
33 SPA
32 HID
31 FS_PLL
30 SBE
29 VTR_RESET
28 VTR_TAUX3
27 VTR_TAUX
26 VTR_TRXD
25 VTR_TTXD
24 VTR_TCK
23 MSD_CS
22 MSD_RDY
21 MS_OUT
20 MS_IN
19 MS_CLK
18 DET_VD
17 GND
16 GND(AUDIO)
15 AODAT1
14 AODAT0
13 DOBCK
12 DOLRCK
11 AIMCK
10 AIDAT0
9 AIDAT1
8 DIDAT
7 DIMCK
6 DIBCK
5 DILRCK
4 GND
3 RESERVE
2 RESERVE
1 RESERVE
CN102
(DV CPU)
RESERVE 30
GND 29
RECDIN7 28
RECDIN6 27
RECDIN5 26
RECDIN4 25
RECDIN3 24
RECDIN2 23
RECDIN1 22
RECDIN0 21
GND(RECDIN) 20
PBOUT7 19
PBOUT6 18
PBOUT5 17
PBOUT4 16
PBOUT3 15
PBOUT2 14
PBOUT1 13
PBOUT0 12
GND(PBOUT) 11
DVI27M 10
GND(DVI27M) 9
DVO27M 8
GND(DVO27M) 7
INH 6
INV 5
GND 4
OUTH 3
OUTV 2
GND 1
FFC
CN4003
30 RESERVE
29 GND
28 RECDIN7
27 RECDIN6
26 RECDIN5
25 RECDIN4
24 RECDIN3
23 RECDIN2
22 RECDIN1
21 RECDIN0
20 GND(RECDIN)
19 PBOUT7
18 PBOUT6
17 PBOUT5
16 PBOUT4
15 PBOUT3
14 PBOUT2
13 PBOUT1
12 PBOUT0
11 GND(PBOUT)
10 DVI27M
9 GND(DVI27M)
8 DVO27M
7 GND(DVO27M)
6 INH
5 INV
4 GND
3 OUTH
2 OUTV
1 GND
CN101
(DV/CPU)
GND 1
TPB- 2
TPB+ 3
TPA- 4
TPA+ 5
GND 6
DV UNIT
CN4004
TCCS
NC 1
NC 2
NC 3
NC 4
NC 5
NC 6
+3V 7
MD2(SYS) 8
TRXD2(SYS) 9
RXD2(SYS) 10
SCK2(SYS) 11
FWE(SYS) 12
RES(SYS) 13
NC 14
GND 15
SBI5(VTR) 16
SBO5(VTR) 17
MMODE(VTR) 18
MMODE(VTR) 19
RES(VTR) 20
21 EEPWR
22 NC
23 NC
24 NC
25 NC
26 GND
27 SBE
28 CLK27M
29 JLIP TX
30 AL 3VSYS
31 JLIP RX
32 FS PLL
33 HID
34 SPA
35 GND
36 MAIN VCO
37 CASS_SW2
38 ENV OUT
39 ATFI
40 REC MON
J4
DC IN
J3
SERIAL REM IN
J2
9P REMOTE
J1
Y/C IN
Y/C OUT
LINE IN
LINE OUT
AUD CH2 IN
AUD CH2 OUT
AUD CH1 IN
AUD CH1 OUT
CN201
1
2
3
4
5
6
J201
0 3 DVCONN

5.6 DV UNIT OVERALL WIRING DIAGRAM

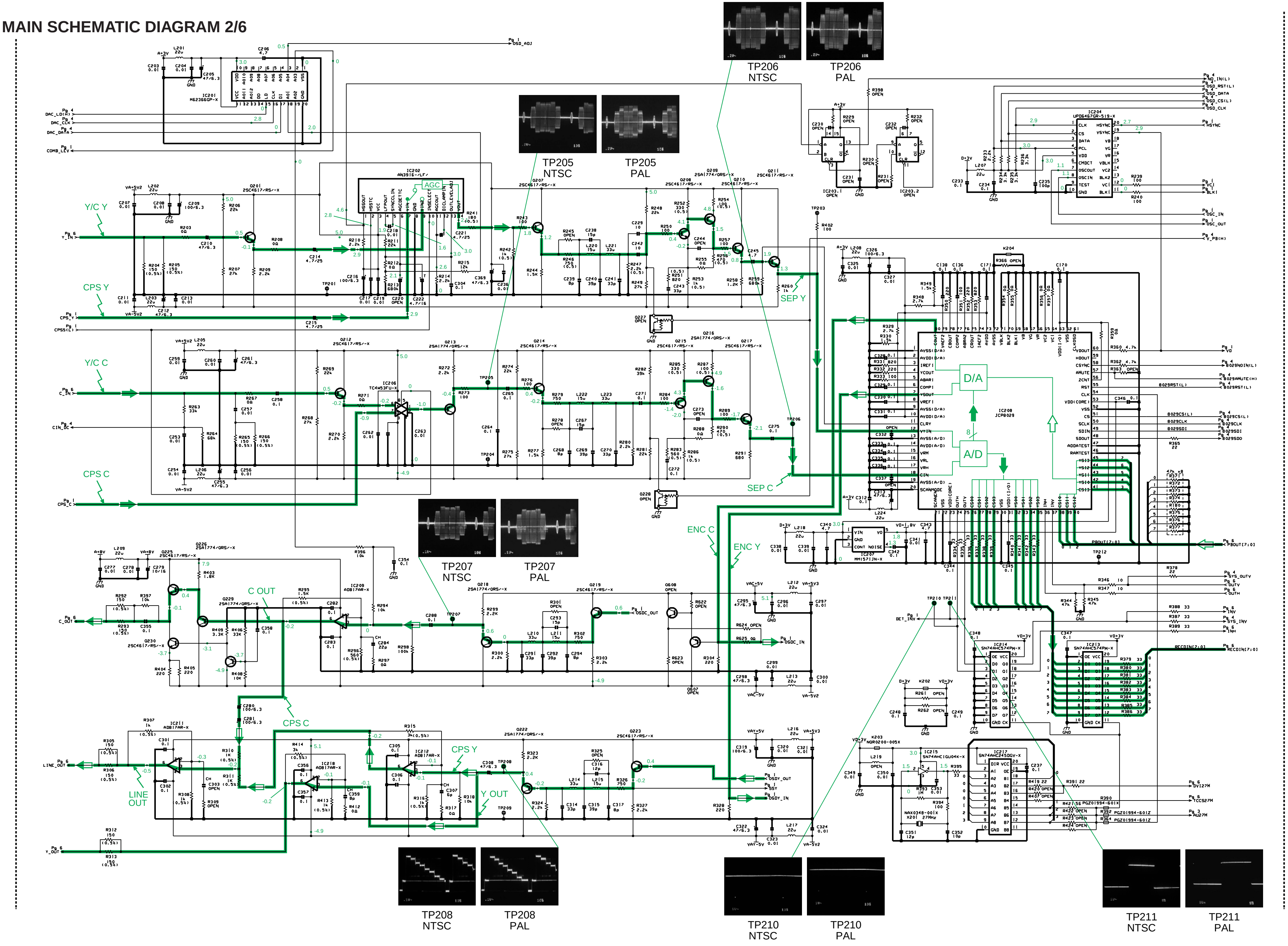


11 DV/CPU
12 MDA/DC
13 MECHA
14 MECHA CONN
CN101
1 GND
2 TPB-
3 TPB+
4 TPA-
5 TPA+
6 GND
CN102
1 GND
2 OUTV
3 OUTH
4 GND
5 INV
6 INH
7 GND
8 DVO27M
9 GND
10 DVI27M
11 GND
12 PBDATA0
13 PBDATA1
14 PBDATA2
15 PBDATA3
16 PBDATA4
17 PBDATA5
18 PBDATA6
19 PBDATA7
20 GND
21 RECDATA0
22 RECDATA1
23 RECDATA2
24 RECDATA3
25 RECDATA4
26 RECDATA5
27 RECDATA6
28 RECDATA7
29 GND
30 NC
CN103
1 NC
2 NC
3 NC
4 GND
5 DILRCK
6 DIBCK
7 DIMCK
8 DIDAT
9 AIDAT1
10 AIDAT0
11 AIMCK
12 DOLRCK
13 DOBCK
14 AODAT0
15 AODAT1
16 GND
17 GND
18 DET_VD
19 MS_CLK
20 MS_IN
21 MS_OUT
22 MSD_RDY
23 MSD_CS
24 VTR_TCK
25 VTR_TTXD
26 VTR_TRXD
27 VTR_TAUX
28 VTR_TAUX3
29 VTR_RESET
30 SBE
31 FS_PLL
32 HID
33 SPA
34 GND
35 MAIN_VCO
36 ENV_OUT
37 ATFI
38 REC_MON
39 GND
40 HOUS_SW
41 CASS_SW
42 V_MUTE
43 A_MUTE
44 SCR_UD
45 SCR_LD
CN109
1 GND
2 MONI_R
3 GND(MONI)
4 MONI_V
5 MONI_L
6 GND
7 +12V
8 +5V
9 +3.15V
10 GND
CN108
+12V 1
+5V 2
GND 3
+3.15V 4
+3.15V 5
+2.9V 6
+2.5V 7
GND 8
CN105
DRUM_FG 26
DRUM_PG 25
MGND 24
MDA_IN 23
MDA_CS 22
MDA_CLK 21
CAP_FG 20
CAP_BRK 19
MGND 18
HOUSING_IN 17
HOUSING_OUT 16
MECHA_REF 15
CAP_REF 14
DRUM_REF 13
REEL_FWD_CTL 12
REEL_BRK 11
REEL_REF 10
REEL_ECR 9
REEL_CURENT 8
REEL_FG 7
MGND 6
CLN_SOL 5
MECHA_VM_CTL 4
HOUS_CURENT 3
NC 2
NC 1
CN107
GND 8
IF 7
1S 6
GND 5
GND 4
2F 3
2S 2
GND 1
FROM/TO ROTALY TRANS
CN104
NC 13
GND 12
TAPE_LED 11
STD_CASS_SW 10
SP_LOCK_SW 9
CASETTE_SW 8
END_SENSOR 7
HOUSING2_SW 6
HOUSING1_SW 5
THERM_SENSOR 4
CA+3V 3
MODE_SENS 2
GND 1
CN106
DEW_SEN. 20
LED2_1_SW 19
LED2_2_SW 18
MONI_R 17
GND(MONI) 16
MONI_V 15
MONI_L 14
EJECT_SW 13
GND 12
REC_SAFE 11
M.I.C._1 10
M.I.C._2 9
M.I.C._3 8
M.I.C._4(GND) 7
TU_REEL_SENS 6
GND 5
SP_REEL_SENS 4
REEL_LED 3
GND 2
START_SENSOR 1
CN111
1 +5V
2 GND
3 GND
4 +12V
CN108
1 +12V
2 +5V
3 GND
4 +3.15V
5 +3.15V
6 +2.9V
7 +2.5V
8 GND
CN105
1 DRUM_FG
2 DRUM_PG
3 MGND
4 MDA_IN
5 MDA_CS
6 MDA_CLK
7 CAP_FG
8 CAP_BRK
9 MGND
10 HOUSING_IN
11 HOUSING_OUT
12 MECHA_REF
13 CAP_REF
14 DRUM_REF
15 REEL_FWD_CTL
16 REEL_BRK
17 REEL_REF
18 REEL_ECR
19 REEL_CURRENT
20 REEL_FG
21 MGND
22 CLN_SOL
23 MECHA_VM_CTL
24 HOUSING_CURRENT
25 NC
26 NC
CN112
D_MOTOR_GND 1
D_COIL_COMMON 2
D_PG/FG_COMMON 3
D_COIL_W 4
D_COIL_W 5
D_COIL_V 6
D_COIL_V 7
D_COIL_U 8
D_COIL_U 9
D_PG_OUT 10
D_FG_OUT 11
D_MOTOR_GND 12
CN113
C_COIL_V 1
C_COIL_V 2
C_COIL_U 3
C_COIL_U 4
C_COIL_W 5
C_COIL_W 6
C_HE_W+ 7
C_HE VCC(5V) 8
C_HE_W- 9
C_HE_V+ 10
C_HE_V- 11
C_HE_U- 12
C_HE_GND 13
C_HE_U+ 14
C_FG_OUT2 15
C_FG_GND/MR_GND 16
C_FG_OUT1 17
C_FG_VCC(5V) 18
FROM/TO CAPSTAN MOTOR
CN114
HOUSING_M+ 1
HOUSING_M- 2
TO HOUSING MOTOR
CN117
LOAD_+ 1
LOAD_- 2
TO LOADING MOTOR
CN119
CLN_SOL 1
GND 2
TO SOL
CN112
12 D_MOTOR_GND
11 D_COIL_COMMON
10 D_PG/FG_COMMON
9 D_COIL_W
8 D_COIL_W
7 D_COIL_V
6 D_COIL_V
5 D_COIL_U
4 D_COIL_U
3 D_PG_OUT
2 D_FG_OUT
1 D_MOTOR_GND
CN100
MOTOR_GND 1
COIL_COMMON 2
PG/FG_COMMON 3
COIL_W 4
COIL_W 5
COIL_V 6
COIL_V 7
COIL_U 8
COIL_U 9
PG_OUT 10
FG_OUT 11
FROM/TO DRUM MOTOR
CN116
1 R_COIL_V
2 R_COIL_V
3 R_COIL_U
4 R_COIL_U
5 R_COIL_W
6 R_COIL_W
7 R_HE_W+
8 R_HE_VCC(5V)
9 R_HE_W-
10 R_HE_V+
11 R_HE_V-
12 R_HE_U-
13 R_HE_GND
14 R_HE_U+
15 R_FG_OUT2
16 R_FG_GND
17 R_FG_OUT1
18 R_FG_VCC(5V)
CN116
20 R_COIL_V
19 R_COIL_V
18 R_COIL_U
17 R_COIL_U
16 R_COIL_W
15 R_COIL_W
14 R_HE_W+
13 R_HE_VCC(5V)
12 R_HE_W-
11 R_HE_V+
10 R_HE_V-
9 R_HE_U-
8 R_HE_GND
7 R_HE_U+
6 R_FG_OUT2
5 R_FG_GND
4 R_FG_OUT1
3 R_FG_VCC(5V)
CN104
1 NC
2 GND
3 TAPE_LED
4 STD_CASS_SW
5 SP_LOCK_SW
6 CASETTE_SW
7 END_SENSOR
8 HOUSING2_SW
9 HOUSING1_SW
10 THERM_SENSOR
11 CA+3V
12 MODE_SENS
13 GND
CN106
1 DEW_SENS.
2 LED2_1_SW
3 LED2_2_SW
4 MONI_R
5 GND(MONI)
6 MONI_V
7 MONI_L
8 EJECT_SW
9 GND
10 REC_SAFE
11 M.I.C._1
12 M.I.C._2
13 M.I.C._3
14 M.I.C._4(GND)
15 TU_REEL_SENS
16 GND
17 SP_REEL_SENS
18 REEL_LED
19 GND
20 START_SENSOR
CN124
COIL_V 1
COIL_V 2
COIL_U 3
COIL_U 4
COIL_W 5
COIL_W 6
HE_W+ 7
HE_VCC(5V) 8
HE_W- 9
HE_V+ 10
HE_V- 11
HE_U- 12
HE_GND 13
HE_U+ 14
FG_OUT2 15
FG_GND 16
FG_OUT1 17
FG_VCC(5V) 18
FROM/TO REEL MOTOR
CN125
REEL_LED 1
SP_REEL_SENS 2
GND 3
TU_REEL_SENS 4
M.I.C._4(GND) 5
M.I.C._3 6
M.I.C._2 7
M.I.C._1 8
REC_SAFE 9
GND 10
FROM/TO MECHA
CN126
END_SENSOR 1
GND 2
HOUSING1_SW 3
HOUSING2_SW 4
FROM SENSOR
CN127
START_SENSOR 1
GND 2
FROM START SENSOR
CN128
GND 1
DEW_SENS. 2
FROM DEW SENSOR

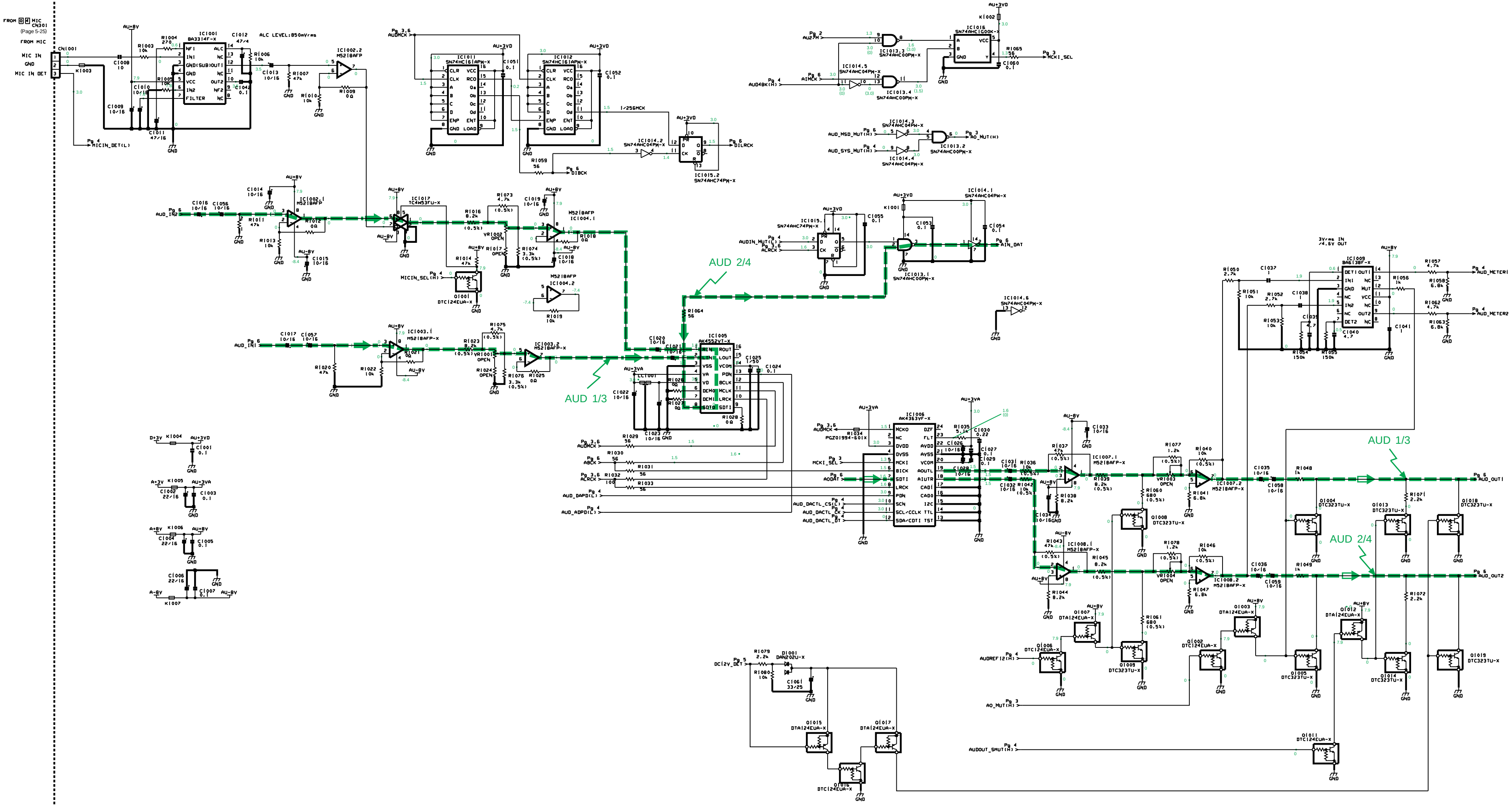
5.7 MAIN SCHEMATIC DIAGRAM 1/6


TP3
NTSC
TP3
PAL
Composite (CPS)
CPS Y
CPS C
Y/C SEP
IC4
CXD2064Q
TP5
NTSC
TP5
PAL
TP6
NTSC
TP6
PAL
TP7
NTSC
TP7
PAL
TP8
PAL
IC1
TC4W53FU-X
IC2
MM1565AF-X
IC3
NJM79L05UA-X
IC5
M51278FP-X
IC6.1
SN74AHCT04PW-X
IC7
MM1565AF-X
IC8
NJM79L05UA-X
IC14
UPC78L05T-M
IC501.1
SN74LV221APW-X
IC501.2
SN74LV221APW-X
IC502.1
SN74AHC74PW-X
IC502.2
SN74AHC74PW-X
IC601.1
TC74VHC221AFT-X
IC601.2
TC74VHC221AFT-X
IC602
TC7SET08F-X
IC603
TC7W53FU-X
IC604
TC7W53FU-X
FL1
0QR0454-001
LINE_IN
CPS5(L)
CPS(L)
COMB_LEV
NTSC(L)
BHO(L)
PAL_DET
NT_DET
DET_INV
CPS_Y
CPS_C
BLKI
OSDY_OUT
OSDY_IN
OSDC_OUT
OSDC_IN
OSC_OUT
OSC_IN
OSD_ADJ
SSY
HSYNC
VCI
NTSC : 0
PAL : 3.0
NTSC : 5.0
PAL : 0
NTSC : 0
PAL : 5.0
NTSC : 0.8
PAL : 4.3
NTSC : 2.7
PAL : 2.3
NTSC : 1.7
PAL : 2.5
NTSC : 5.0
PAL : 0

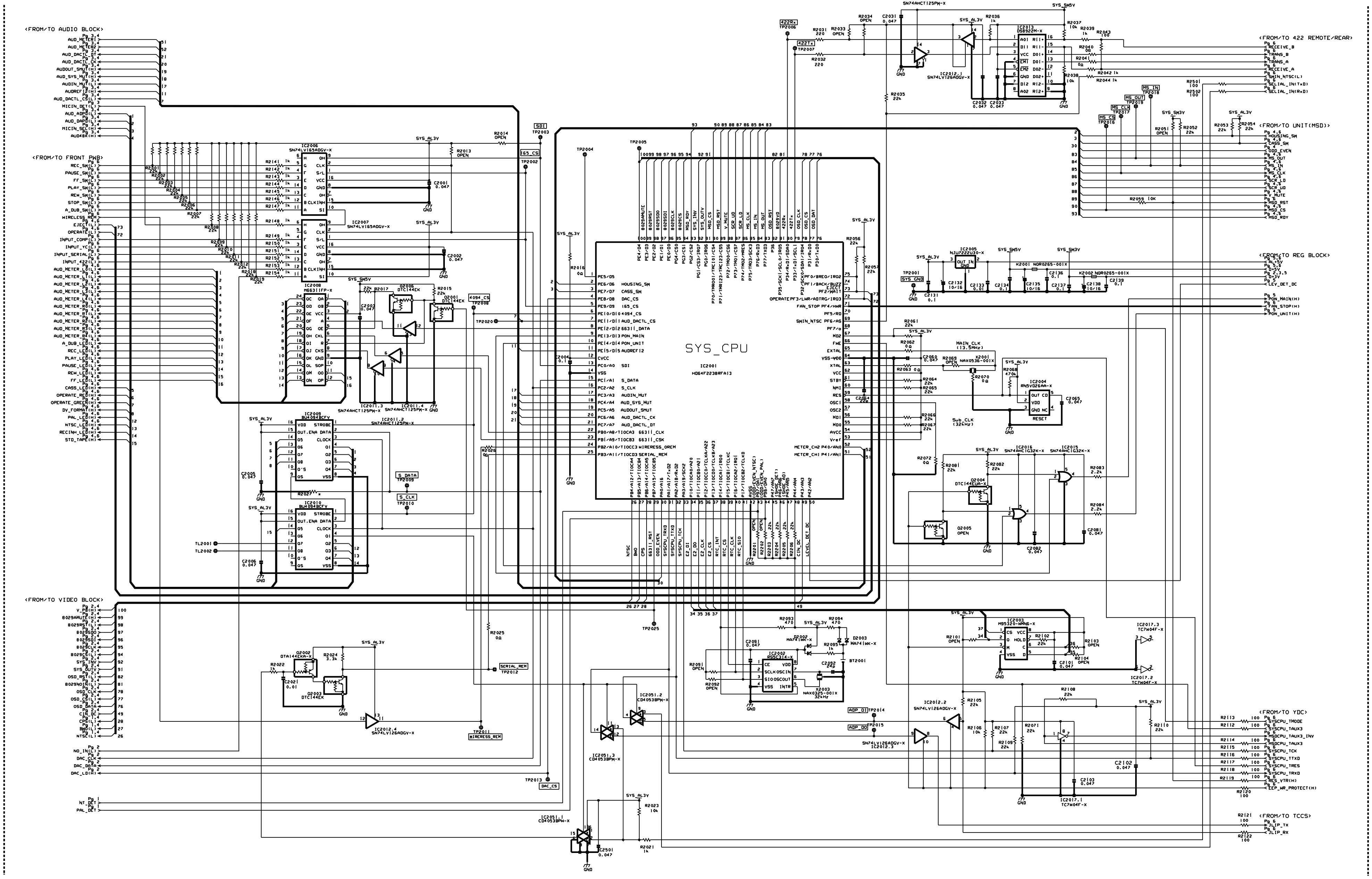
MAIN SCHEMATIC DIAGRAM 2/6


TP206
NTSC
TP206
PAL
TP205
NTSC
TP205
PAL
TP207
NTSC
TP207
PAL
TP208
NTSC
TP208
PAL
TP210
NTSC
TP210
PAL
TP211
NTSC
TP211
PAL
Y/C Y
CPS Y
Y/C C
CPS C
C OUT
CPS C
LINE OUT
CPS Y
Y OUT
SEP Y
SEP C
ENC C
ENC Y
AGC
D/A
A/D
IC201 M62366GP-X
IC202 AN3916-LF/
IC204 UPD6467GR-519-X
IC206 TC4W53FU-X
IC207 MM1571JN-X
IC208 JCP8029
IC209 AD817AR-X
IC211 AD817AR-X
IC212 AD817AR-X
IC213 SN74AHC574PW-X
IC214 SN74AHC574PW-X
IC215 SN74AHC1GU04K-X
IC217 SN74AHC245DGV-X
IC218 AD817AR-X
Y_IN
CPS_Y
C_IN
CIN_DC
CPS_C
C_OUT
LINE_OUT
Y_OUT
COMB_LEV
DAC_LD(H)
DAC_CLK
DAC_DATA
OSD_ADJ
HSYNC
VD
PBOUT[7:0]
RECDIN[7:0]
GND

MAIN SCHEMATIC DIAGRAM 3/6


FROM MIC CN301 (Page 5-25)
FROM MIC
MIC IN
GND
MIC IN DET
CN1001
IC1001 BA3314F-X
ALC LEVEL:850mVrms
IC1002.2 M5218AFP
MICIN_DET(L)
IC1011 SN74HC161APW-X
IC1012 SN74HC161APW-X
1/256MCK
IC1014.2 SN74AHC04PW-X
IC1015.2 SN74AHC74PW-X
DILRCK
DIBCK
AUDMCK
AU27M
IC1016 SN74AHC1G00K-X
MCKI_SEL
IC1014.5 SN74AHC04PW-X
IC1013.3 SN74AHC00PW-X
IC1013.4 SN74AHC00PW-X
AUD48K(H)
AIMCK
AUD_MSD_MUT(H)
AUD_SYS_MUT(H)
IC1014.3 SN74AHC04PW-X
IC1014.4 SN74AHC04PW-X
IC1013.2 SN74AHC00PW-X
AO_MUT(H)
AUD_IN2
IC1002.1 M5218AFP
IC1017 TC4W53FU-X
IC1004.1 M5218AFP
IC1004.2 M5218AFP
MICIN_SEL(H)
Q1001 DTC124EUA-X
AUD 2/4
AUDIN_MUT(L)
ALRCK
IC1015.1 SN74AHC74PW-X
IC1013.1 SN74AHC00PW-X
IC1014.1 SN74AHC04PW-X
AIN_DAT
IC1014.6 SN74AHC04PW-X
3Vrms IN /4.6V OUT
IC1009 BA6138F-X
AUD_METER1
AUD_METER2
AUD_IN1
IC1003.1 M5218AFP-X
IC1003.2 M5218AFP-X
AUD 1/3
IC1005 AK4552VT-X
IC1006 AK4363VF-X
AUDMCK
ABCK
AUD_DAPD(L)
AUD_ADPD(L)
AUD_DACTL_CS(L)
AUD_DACTL_CK
AUD_DACTL_DT
MCKI_SEL
AODAT
IC1007.1 M5218AFP-X
IC1007.2 M5218AFP-X
IC1008.1 M5218AFP-X
IC1008.2 M5218AFP-X
AUD 1/3
AUD 2/4
AUD_OUT1
AUD_OUT2
Q1004 DTC323TU-X
Q1013 DTC323TU-X
Q1018 DTC323TU-X
Q1008 DTC323TU-X
Q1007 DTA124EUA-X
Q1006 DTC124EUA-X
Q1009 DTC323TU-X
Q1002 DTC124EUA-X
Q1003 DTA124EUA-X
Q1005 DTC323TU-X
Q1012 DTA124EUA-X
Q1014 DTC323TU-X
Q1019 DTC323TU-X
AUDREF12(H)
AO_MUT(H)
AUDOUT_SMUT(H)
Q1011 DTC124EUA-X
DC12V_DET
D1001 DAN202U-X
Q1015 DTA124EUA-X
Q1017 DTA124EUA-X
Q1016 DTC124EUA-X
D+3V
A+3V
A+8V
A-8V
AU+8V
AU+3VD
AU+3VA
AU-8V
GND

MAIN SCHEMATIC DIAGRAM 4/6



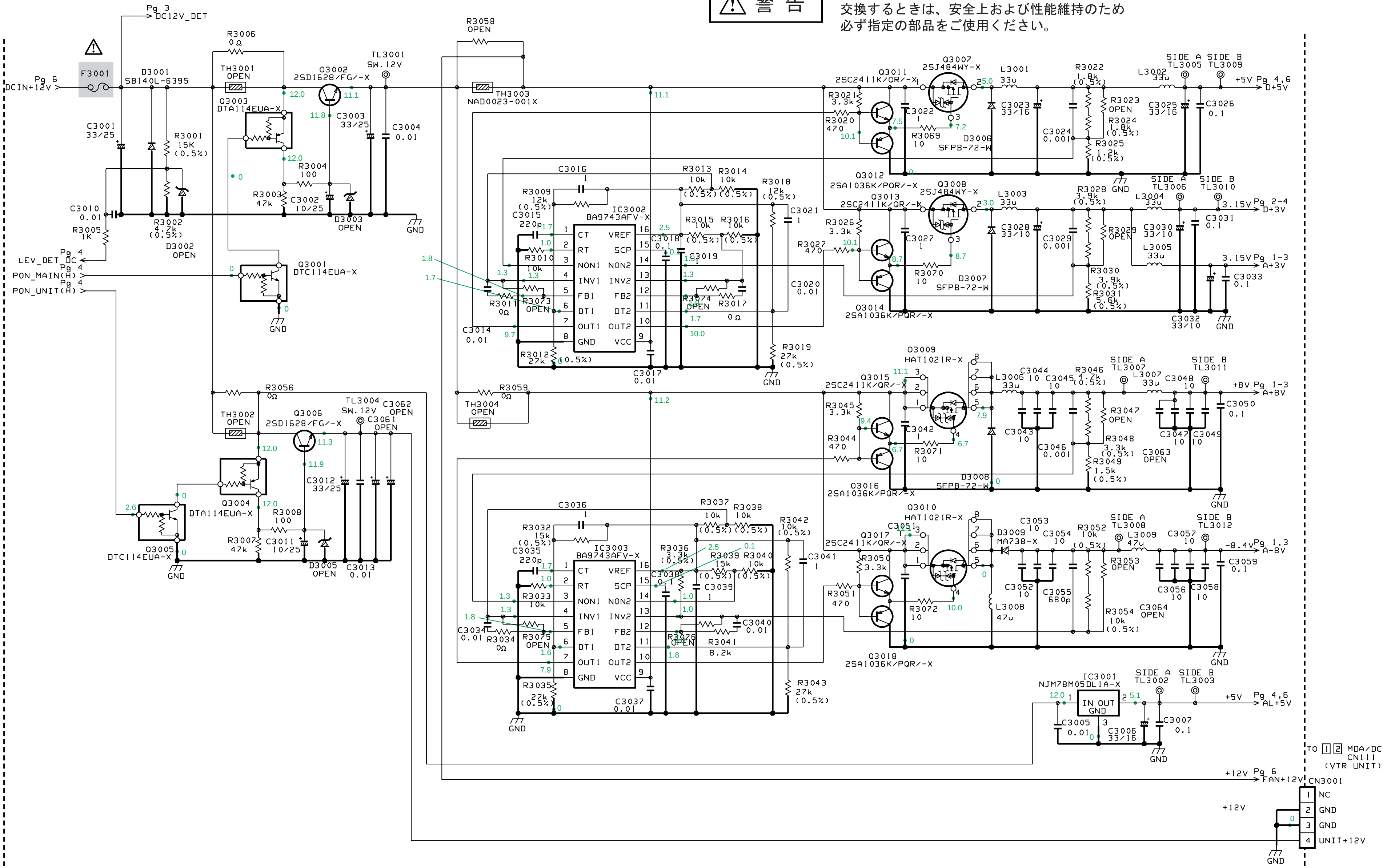
<FROM/TO AUDIO BLOCK>
<FROM/TO FRONT PWB>
<FROM/TO VIDEO BLOCK>
<FROM/TO 422 REMOTE/REAR>
<FROM/TO UNIT(MSD)>
<FROM/TO REG BLOCK>
<FROM/TO YDC>
<FROM/TO TCCS>
SYS_CPU
IC2001
HD64F2238RFA13
IC2006
SN74LV165ADGV-X
IC2007
SN74LV165ADGV-X
IC2008
M66311FP-X
IC2009
BU4094BCFV
IC2010
BU4094BCFV
IC2011.1
SN74AHCT125PW-X
IC2011.2
SN74AHCT125PW-X
IC2011.3
SN74AHCT125PW-X
IC2011.4
SN74AHCT125PW-X
IC2012.1
SN74LV126ADGV-X
IC2012.2
SN74LV126ADGV-X
IC2012.3
SN74LV126ADGV-X
IC2012.4
SN74LV126ADGV-X
IC2013
DS8922M-X
IC2003
M95320-WMN6-X
IC2002
RS5C314-X
IC2004
RN5VD26AA-X
IC2005
NJU7222U30-X
IC2015
SN74AHC1G32K-X
IC2016
SN74AHC1G32K-X
IC2017.1
TC7W04F-X
IC2017.2
TC7W04F-X
IC2017.3
TC7W04F-X
IC2051.1
CD4053BPW-X
IC2051.2
CD4053BPW-X
IC2051.3
CD4053BPW-X
SYS_AL3V
SYS_SW5V
SYS_SW3V
MAIN_CLK
(13.5MHz)
X2001
NAX0536-001X
Sub_CLK
(32kHz)
X2003
NAX0325-001X
32kHz
BT2001
RESET
SERIAL_REM
WIRERESS_REM
DAC_CS
S_DATA
S_CLK
SDI
165_CS
4094_CS
422Rx
422Tx
MS_IN
MS_OUT
MS_CLK
MS_CS
SYS_GND
ADP_DI
ADP_DO
GND

MAIN SCHEMATIC DIAGRAM 5/6

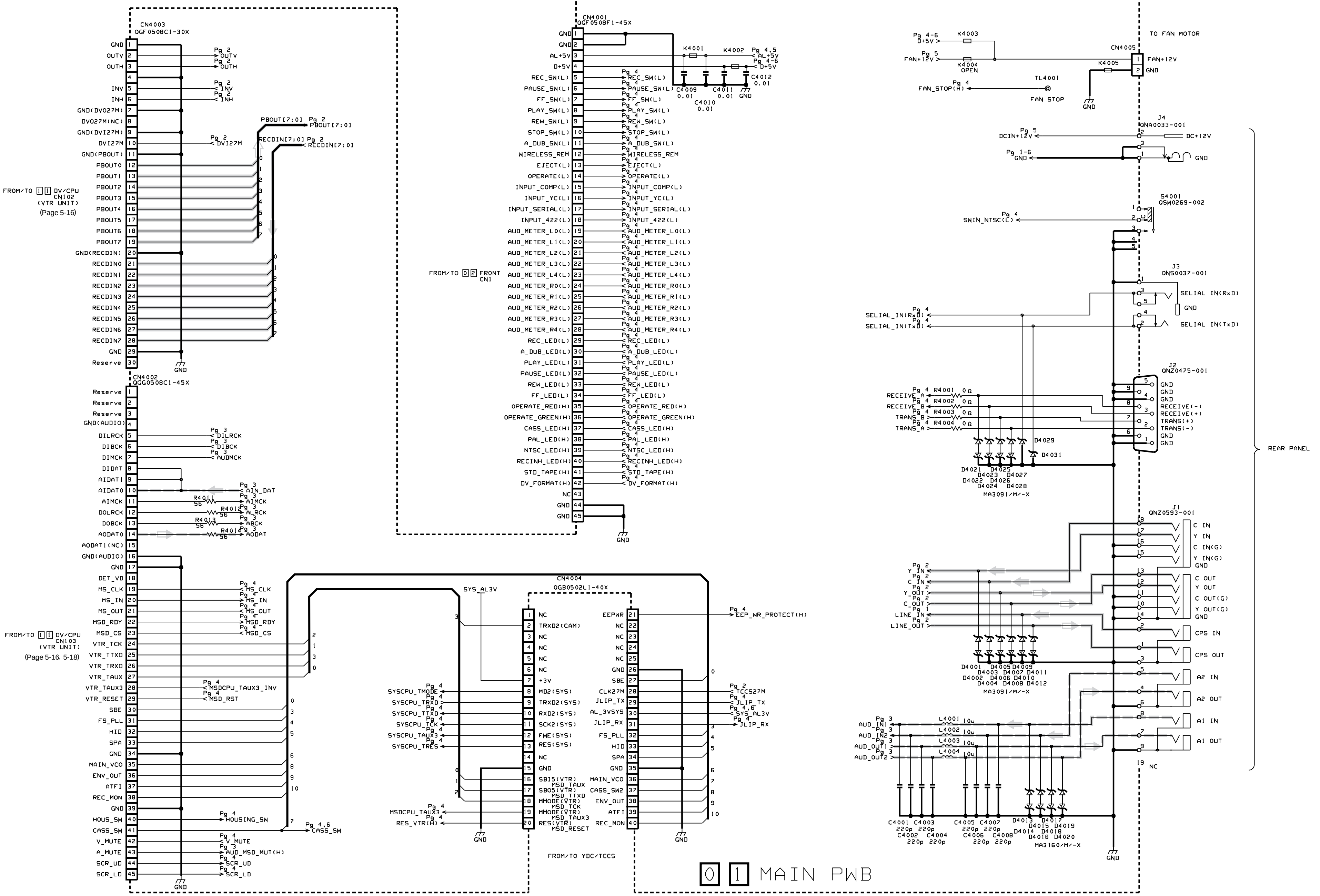
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

⚠ 警 告

⚠ 印の部品は安全上重要な部品です。
交換するときは、安全上および性能維持のため
必ず指定の部品をご使用ください。


Pg 3 DC12V_DET
Pg 6 DCIN+12V
F3001
D3001 SB140L-6395
C3001 33/25
R3001 15K (0.5%)
C3010 0.01
R3005 1K
R3002 4.7k (0.5%)
D3002 OPEN
R3006 0Ω
TH3001 OPEN
Q3003 DTA114EUA-X
Q3002 2SD1628/FG/-X
R3003 47k
R3004 100
C3002 10/25
D3003 OPEN
C3003 33/25
C3004 0.01
TL3001 SW.12V
GND
Pg 4 LEV_DET_DC
Pg 4 PON_MAIN(H)
Pg 4 PON_UNIT(H)
Q3001 DTC114EUA-X
R3058 OPEN
TH3003 NAD0023-001X
C3016 1
R3009 12k (0.5%)
C3015 220p
R3010 10k
R3011 0Ω
R3073 OPEN
C3014 0.01
R3012 27k (0.5%)
IC3002 BA9743AFV-X
CT VREF RT SCP NON1 NON2 INV1 INV2 FB1 FB2 DT1 DT2 OUT1 OUT2 GND VCC
R3013 10k (0.5%)
R3014 10k (0.5%)
R3015 10k (0.5%)
R3016 10k (0.5%)
C3018 0.1
C3019 1
R3074 OPEN
R3017 0Ω
R3018 12k (0.5%)
C3021 1
C3020 0.01
C3017 0.01
R3019 27k (0.5%)
R3056 0Ω
TH3002 OPEN
Q3006 2SD1628/FG/-X
TL3004 SW.12V
C3062 OPEN
C3061 OPEN
C3012 33/25
Q3004 DTA114EUA-X
R3008 100
R3007 47k
C3011 10/25
D3005 OPEN
C3013 0.01
Q3005 DTC114EUA-X
R3059 0Ω
TH3004 OPEN
C3036 1
R3032 15k (0.5%)
C3035 220p
R3033 10k
C3034 0.01
R3034 0Ω
R3075 OPEN
R3035 27k (0.5%)
IC3003 BA9743AFV-X
R3036 3.3k (0.5%)
C3038 0.1
C3039 1
R3037 10k (0.5%)
R3038 10k (0.5%)
R3039 15k (0.5%)
R3040 10k (0.5%)
R3076 OPEN
R3041 8.2k
C3040 0.01
R3042 10k (0.5%)
C3041 1
R3043 27k (0.5%)
C3037 0.01
Q3011 2SC2411K/QR/-X
Q3007 2SJ484WY-X
R3021 3.3k
R3020 470
C3022 1
R3069 10
D3006 SFPB-72-W
L3001 33u
C3023 33/16
C3024 0.001
R3022 1.8k (0.5%)
R3023 OPEN
R3024 1.8k (0.5%)
R3025 1.2k (0.5%)
L3002 33u
SIDE A TL3005
SIDE B TL3009
C3025 33/16
C3026 0.1
+5V Pg 4,6 D+5V
Q3012 2SA1036K/PQR/-X
Q3013 2SC2411K/QR/-X
Q3008 2SJ484WY-X
R3026 3.3k
R3027 470
C3027 1
R3070 10
D3007 SFPB-72-W
L3003 33u
C3028 33/10
C3029 0.001
R3028 3.9k (0.5%)
R3029 OPEN
R3030 3.9k (0.5%)
R3031 5.6k (0.5%)
L3004 33u
SIDE A TL3006
SIDE B TL3010
C3030 33/10
C3031 0.1
L3005 33u
3.15V Pg 2-4 D+3V
3.15V Pg 1-3 A+3V
C3032 33/10
C3033 0.1
Q3014 2SA1036K/PQR/-X
Q3009 HAT1021R-X
Q3015 2SC2411K/QR/-X
R3045 3.3k
R3044 470
C3042 1
R3071 10
L3006 10
C3044 10
C3045 10
R3046 4.7k (0.5%)
L3007 33u
C3043 10
C3046 0.001
R3047 OPEN
R3048 3.3k (0.5%)
R3049 1.5k (0.5%)
D3008 SFPB-72-W
SIDE A TL3007
SIDE B TL3011
C3048 10
C3047 10
C3049 10
C3063 OPEN
C3050 0.1
+8V Pg 1-3 A+8V
Q3016 2SA1036K/PQR/-X
Q3010 HAT1021R-X
Q3017 2SC2411K/QR/-X
C3051 1
R3050 3.3k
R3051 470
R3072 10
D3009 MA738-X
C3053 10
C3052 10
C3054 10
C3055 680p
L3008 47u
R3052 10k (0.5%)
R3053 OPEN
R3054 10k (0.5%)
L3009 47u
SIDE A TL3008
SIDE B TL3012
C3057 10
C3056 10
C3058 10
C3064 OPEN
C3059 0.1
-8.4V Pg 1,3 A-8V
Q3018 2SA1036K/PQR/-X
IC3001 NJM78M05DL1A-X
IN OUT GND
C3005 0.01
C3006 33/16
SIDE A TL3002
SIDE B TL3003
C3007 0.1
+5V Pg 4,6 AL+5V
+12V Pg 6 FAN+12V
TO 1 2 MDA/DC CN111 (VTR UNIT)
CN3001
1 NC
2 GND
3 GND
4 UNIT+12V
+12V

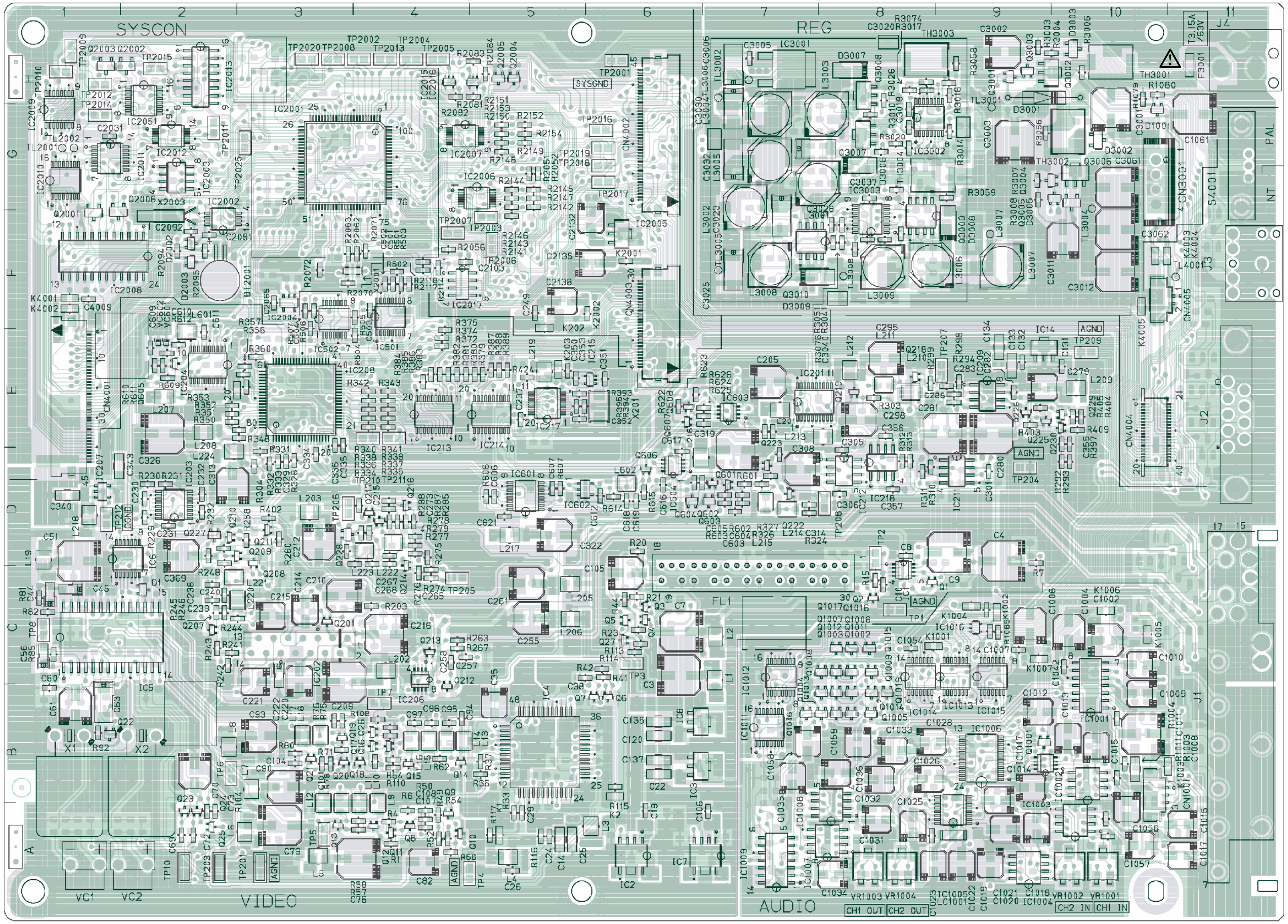
MAIN SCHEMATIC DIAGRAM 6/6



CN4003
QGF0508C1-30X
FROM/TO 11 DV/CPU CN102 (VTR UNIT)
(Page 5-16)
GND
OUTV
OUTH
INV
INH
GND(DV027M)
DV027M(NC)
GND(DVI27M)
DVI27M
GND(PBOUT)
PBOUT0
PBOUT1
PBOUT2
PBOUT3
PBOUT4
PBOUT5
PBOUT6
PBOUT7
GND(RECDIN)
RECDIN0
RECDIN1
RECDIN2
RECDIN3
RECDIN4
RECDIN5
RECDIN6
RECDIN7
Reserve
PBOUT[7:0]
RECDIN[7:0]
CN4002
QGG0508C1-45X
FROM/TO 11 DV/CPU CN103 (VTR UNIT)
(Page 5-16, 5-18)
GND(AUDIO)
DILRCK
DIBCK
DIMCK
DIDAT
AIDAT1
AIDAT0
AIMCK
DOLRCK
DOBCK
AODAT0
AODAT1(NC)
DET_VD
MS_CLK
MS_IN
MS_OUT
MSD_RDY
MSD_CS
VTR_TCK
VTR_TTXD
VTR_TRXD
VTR_TAUX
VTR_TAUX3
VTR_RESET
SBE
FS_PLL
HID
SPA
MAIN_VCO
ENV_OUT
ATFI
REC_MON
HOUS_SW
CASS_SW
V_MUTE
A_MUTE
SCR_UD
SCR_LD
R4011 56
R4012 56
R4013 56
R4014 56
CN4001
QGF0508F1-45X
FROM/TO 02 FRONT CN1
AL+5V
D+5V
REC_SW(L)
PAUSE_SW(L)
FF_SW(L)
PLAY_SW(L)
REW_SW(L)
STOP_SW(L)
A_DUB_SW(L)
WIRELESS_REM
EJECT(L)
OPERATE(L)
INPUT_COMP(L)
INPUT_YC(L)
INPUT_SERIAL(L)
INPUT_422(L)
AUD_METER_L0(L)
AUD_METER_L1(L)
AUD_METER_L2(L)
AUD_METER_L3(L)
AUD_METER_L4(L)
AUD_METER_R0(L)
AUD_METER_R1(L)
AUD_METER_R2(L)
AUD_METER_R3(L)
AUD_METER_R4(L)
REC_LED(L)
A_DUB_LED(L)
PLAY_LED(L)
PAUSE_LED(L)
REW_LED(L)
FF_LED(L)
OPERATE_RED(H)
OPERATE_GREEN(H)
CASS_LED(H)
PAL_LED(H)
NTSC_LED(H)
RECINH_LED(H)
STD_TAPE(H)
DV_FORMAT(H)
NC
K4001
K4002
C4009 0.01
C4010 0.01
C4011 0.01
C4012 0.01
CN4004
QGB0502L1-40X
FROM/TO YDC/TCCS
SYS_AL3V
TRXD2(CAM)
+3V
MD2(SYS)
TRXD2(SYS)
RXD2(SYS)
SCK2(SYS)
FWE(SYS)
RES(SYS)
SBI5(VTR) MSD_TAUX
SBO5(VTR) MSD_TTXD
MMODE(VTR) MSD_TCK
MMODE(VTR) MSD_TAUX3
RES(VTR) MSD_RESET
EEPWR
CLK27M
JLIP_TX
AL_3VSYS
JLIP_RX
CASS_SW2
EEP_WR_PROTECT(H)
TCCS27M
SYSCPU_TMODE
SYSCPU_TRXD
SYSCPU_TTXD
SYSCPU_TCK
SYSCPU_TAUX3
SYSCPU_TRES
MSDCPU_TAUX3
RES_VTR(H)
MSDCPU_TAUX3_INV
MSD_RST
HOUSING_SW
AUD_MSD_MUT(H)
K4003
K4004 OPEN
K4005
CN4005
TO FAN MOTOR
FAN+12V
FAN_STOP(H)
TL4001
FAN STOP
J4
QNA0033-001
DCIN+12V
DC+12V
S4001
QSW0269-002
SWIN_NTSC(L)
J3
QNS0037-001
SELIAL_IN(RxD)
SELIAL_IN(TxD)
J2
QNZ0475-001
RECEIVE_A
RECEIVE_B
TRANS_B
TRANS_A
R4001 0Ω
R4002 0Ω
R4003 0Ω
R4004 0Ω
RECEIVE(-)
RECEIVE(+)
TRANS(+)
TRANS(-)
D4021 D4022 D4023 D4024 D4025 D4026 D4027 D4028
D4029
D4031
MA3091/M/-X
J1
QNZ0593-001
C IN
Y IN
C IN(G)
Y IN(G)
C OUT
Y OUT
C OUT(G)
Y OUT(G)
CPS IN
CPS OUT
A2 IN
A2 OUT
A1 IN
A1 OUT
Y_IN
C_IN
Y_OUT
C_OUT
LINE_IN
LINE_OUT
D4001 D4002 D4003 D4004 D4005 D4006 D4007 D4008 D4009 D4010 D4011 D4012
MA3091/M/-X
AUD_IN1
AUD_IN2
AUD_OUT1
AUD_OUT2
L4001 10u
L4002 10u
L4003 10u
L4004 10u
C4001 220p
C4002 220p
C4003 220p
C4004 220p
C4005 220p
C4006 220p
C4007 220p
C4008 220p
D4013 D4014 D4015 D4016 D4017 D4018 D4019 D4020
MA3160/M/-X
REAR PANEL
01 MAIN PWB

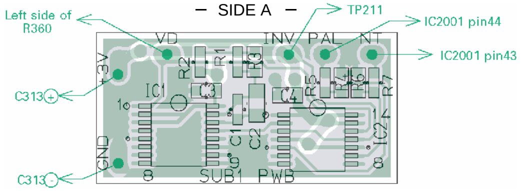
5.8 MAIN CIRCUIT BOARD

– SIDE A –



– SUB1 CIRCUIT BOARD –

– SIDE A –



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

⚠ 警 告

⚠ 印の部品は安全上重要な部品です。
交換するときは、安全上および性能維持のため
必ず指定の部品をご使用ください。

● ADDRESS TABLE OF BOARD PARTS
Each address may have an address error by one interval.

A-1C
Side — Y axis
X axis

IC1	A-8D	Q605	A-1E	R31	B-5A	R248	A-2D	R379	A-4E	R1052	B-7A
IC2	A-5A	Q606	A-6D	R32	B-5B	R249	B-2D	R380	A-4E	R1053	B-7A
IC3	A-6B	Q607	A-6E	R33	A-4A	R250	B-2D	R381	A-4E	R1054	B-7A
IC4	A-5B	Q608	A-6E	R34	B-4B	R251	B-2D	R382	A-4E	R1055	B-7A
IC5	A-1C	Q1001	A-9B	R35	B-4B	R252	A-2D	R383	A-4E	R1056	B-7A
IC6	A-1D	Q1002	A-8B	R36	A-4B	R253	B-2D	R384	A-4E	R1057	B-7B
IC7	A-6A	Q1003	A-7B	R37	A-4B	R254	A-2D	R385	A-4E	R1058	B-7B
IC8	A-6B	Q1004	A-7B	R38	B-5B	R255	B-2D	R386	A-4E	R1059	B-7B
IC14	A-9E	Q1005	A-8B	R39	B-5B	R256	B-2D	R387	A-4E	R1060	B-8A
IC201	A-7E	Q1006	A-8C	R40	B-5B	R257	B-2D	R388	A-4E	R1061	B-8A
IC202	A-3C	Q1007	A-7C	R41	A-5C	R258	A-2D	R389	A-4E	R1062	B-7B
IC203	A-1D	Q1008	A-7C	R42	A-5C	R259	B-2D	R390	B-4E	R1063	B-7B
IC204	A-2E	Q1009	A-8C	R43	B-5C	R260	A-2D	R391	B-4E	R1064	B-9B
IC206	A-4C	Q1011	A-8B	R44	A-5C	R261	B-5F	R392	B-4E	R1065	A-9C
IC207	A-1D	Q1012	A-7B	R45	B-5B	R262	B-5F	R393	A-5E	R1071	B-7B
IC208	A-2E	Q1013	A-7B	R46	B-5B	R263	A-4C	R394	A-5E	R1072	B-8B
IC209	A-9E	Q1014	A-8B	R47	B-5C	R264	B-4C	R395	A-5E	R1073	B-9A
IC211	A-8D	Q1015	A-8C	R48	B-5C	R265	B-4C	R396	B-8E	R1074	B-9A
IC212	A-7D	Q1016	A-8C	R49	A-4A	R266	B-4C	R397	A-10E	R1075	B-10A
IC213	A-4E	Q1017	A-7C	R50	A-4A	R267	A-4C	R398	B-1D	R1076	A-10A
IC214	A-4E	Q1018	A-7B	R51	B-4A	R268	B-4C	R402	A-2D	R1077	B-8A
IC215	A-5E	Q1019	A-8B	R52	A-4A	R269	B-4C	R403	A-9E	R1078	B-8A
IC217	A-5E	Q2001	A-1G	R53	B-4A	R270	B-4C	R404	A-10E	R1079	A-10H
IC218	A-8D	Q2002	A-1H	R54	A-4A	R271	B-4C	R405	A-10E	R1080	A-10H
IC501	A-3F	Q2003	A-1H	R55	B-4B	R272	B-4C	R406	B-9E	R2001	B-4G
IC502	A-3F	Q2004	A-4H	R56	A-4A	R273	B-4D	R407	B-5E	R2002	B-5G
IC601	A-5D	Q2005	A-4H	R57	A-3A	R274	A-4D	R408	A-9E	R2003	B-4G
IC602	A-5D	Q2006	A-1G	R58	A-3A	R275	A-4D	R409	A-10E	R2004	B-4G
IC603	A-6E	Q3001	A-9H	R59	B-3A	R276	A-4D	R412	B-8D	R2005	B-5G
IC604	A-6D	Q3002	A-9H	R60	B-3A	R277	A-3D	R413	B-8D	R2006	B-4G
IC1001	A-10C	Q3003	A-9H	R61	B-4B	R278	A-3D	R414	B-8E	R2007	B-5G
IC1002	A-10B	Q3004	A-9G	R62	A-4B	R279	A-3D	R419	B-5E	R2008	B-4G
IC1003	A-10A	Q3005	A-9G	R63	B-3B	R280	A-3D	R420	B-5E	R2009	B-5G
IC1004	A-9A	Q3006	A-10G	R64	A-3B	R281	B-3D	R421	B-5E	R2010	B-4G
IC1005	A-8A	Q3007	A-8G	R65	B-3B	R282	B-3D	R422	B-5E	R2011	B-4H
IC1006	A-9B	Q3008	A-8H	R66	A-3B	R283	B-3D	R423	B-5E	R2012	B-5G
IC1007	A-7A	Q3009	A-8G	R67	A-3B	R284	A-3D	R424	A-5E	R2013	B-4G
IC1008	A-7B	Q3010	A-7F	R68	A-3B	R285	A-3D	R501	A-3F	R2014	B-4G
IC1009	A-7A	Q3011	B-8G	R69	B-3B	R286	B-3D	R502	A-3F	R2015	B-1G
IC1011	A-7B	Q3012	B-7G	R70	B-3B	R287	A-3D	R503	A-3F	R2016	B-3G
IC1012	A-7C	Q3013	B-8H	R71	A-3B	R288	A-3D	R504	A-3F	R2017	B-1F
IC1013	A-8C	Q3014	B-8H	R72	B-3B	R289	A-3D	R505	A-3F	R2018	B-4G
IC1014	A-8C	Q3015	B-8G	R73	B-3B	R290	A-3D	R506	A-3F	R2019	B-5G
IC1015	A-9C	Q3016	B-8G	R74	B-3B	R291	B-3D	R507	A-2F	R2021	B-1H
IC1016	A-9C	Q3017	B-7F	R75	A-3B	R292	A-9E	R601	A-7D	R2022	B-1H
IC1017	A-9B	Q3018	B-7F	R76	A-3B	R293	A-10E	R602	A-7D	R2023	B-1H
IC2001	A-3G			R77	B-3B	R294	A-8E	R603	A-6D	R2024	B-1H
IC2002	A-2G	D1	A-1C	R78	A-3B	R295	B-9E	R604	A-6D	R2025	B-1H
IC2003	A-1G	D1001	A-10H	R79	B-3B	R296	B-9E	R605	A-6D	R2026	B-2G
IC2004	A-2F	D2002	A-1F	R80	A-2B	R297	B-9E	R606	A-4D	R2027	B-3H
IC2005	A-5F	D2003	A-1F	R81	A-1C	R298	A-9E	R607	A-5D	R2031	B-1G
IC2006	A-4G	D3001	A-10H	R82	A-1C	R299	A-8E	R608	B-4D	R2032	B-1G
IC2007	A-4G	D3002	A-10G	R83	B-1C	R300	B-8E	R609	A-1E	R2033	B-1G
IC2008	A-1F	D3003	A-10H	R84	B-1C	R301	B-8E	R610	A-1E	R2034	B-1G
IC2009	A-1H	D3005	A-10G	R85	A-1C	R302	B-8E	R611	A-1E	R2035	B-3G
IC2010	A-1G	D3006	A-8G	R86	B-1B	R303	A-8E	R612	A-1E	R2036	B-1G
IC2011	A-1G	D3007	A-7H	R87	B-1C	R304	A-2D	R613	B-6E	R2037	B-1H
IC2012	A-1G	D3008	A-8G	R88	B-1C	R305	B-9D	R614	A-5D	R2038	B-1H
IC2013	A-2H	D3009	A-7F	R89	B-1C	R306	B-9D	R615	A-6D	R2039	B-2H
IC2015	A-4H	D4001	B-11D	R90	B-1C	R307	B-9D	R616	B-5D	R2040	B-2H
IC2016	A-4H	D4002	B-10D	R91	B-1C	R308	B-8D	R617	B-6D	R2041	B-2H
IC2017	A-4F	D4003	B-11C	R92	A-1B	R309	B-9E	R618	B-6D	R2042	B-2H
IC2051	A-1H	D4004	B-10C	R93	B-1A	R310	A-8D	R619	B-6E	R2043	B-2H
IC3001	A-7H	D4005	B-11D	R94	B-1A	R311	A-8D	R620	B-6E	R2044	B-3G
IC3002	A-8H	D4006	B-10D	R95	B-1A	R312	A-8E	R621	B-6E	R2051	A-5G
IC3003	A-8G	D4007	B-11C	R96	B-1A	R313	A-8E	R622	A-6E	R2052	A-5G
		D4008	B-10C	R97	B-1C	R315	B-7D	R623	A-6E	R2053	B-3G
Q1	A-8C	D4009	B-11C	R98	B-1C	R316	B-7D	R624	A-6E	R2054	B-3G
Q2	A-8C	D4010	B-10C	R99	B-1A	R317	B-7D	R625	A-6E	R2056	A-4F
Q3	A-6C	D4011	B-11C	R100	B-1B	R318	B-7E	R626	A-6E	R2057	B-3G
Q4	A-6C	D4012	B-10C	R101	B-1A	R323	A-7E	R627	A-7E	R2059	B-3G
Q5	A-5C	D4013	B-10A	R102	B-2A	R324	A-7D	R628	A-7E	R2061	B-3G
Q6	A-5B	D4014	B-10A	R103	B-1A	R325	B-7D	R629	B-7E	R2062	A-3F
Q7	A-5B	D4015	B-10B	R104	A-2A	R326	A-7D	R1003	A-10B	R2063	A-3F
Q8	A-3A	D4016	B-10B	R105	B-2A	R327	A-7D	R1004	A-10B	R2064	B-3G
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Q14	A-4B	D4022	B-11D	R111	B-3A	R333	A-2E	R1011	A-10B	R2070	A-3F
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Q25	A-2A	R2	B-3A	R204	B-3C	R344	B-3E	R1023	B-10A	R2095	A-2F
Q26	A-3B	R3	B-3A	R205	B-3C	R345	B-3E	R1024	B-10A	R2101	B-1G
Q27	A-5C	R4	A-3A	R206	B-3C	R346	B-3E	R1025	B-9A	R2102	B-1G
Q201	A-3C	R5	B-3A	R207	B-3C	R347	B-3E	R1026	B-9B	R2103	B-1G
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Q208	A-2D	R7	A-9D	R209	B-2C	R349	B-2E	R1028	B-8B	R2105	B-1G
Q209	A-2D	R8	B-9D	R210	B-3C	R350	A-2E	R1029	B-8B	R2106	B-2H
Q210	A-2D	R9	B-9D	R211	B-2C	R351	A-2E	R1030	B-8B	R2107	B-2G
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Q213	A-4C	R12	B-9D	R214	B-2C	R354	B-2E	R1033	B-9B	R2110	B-1H
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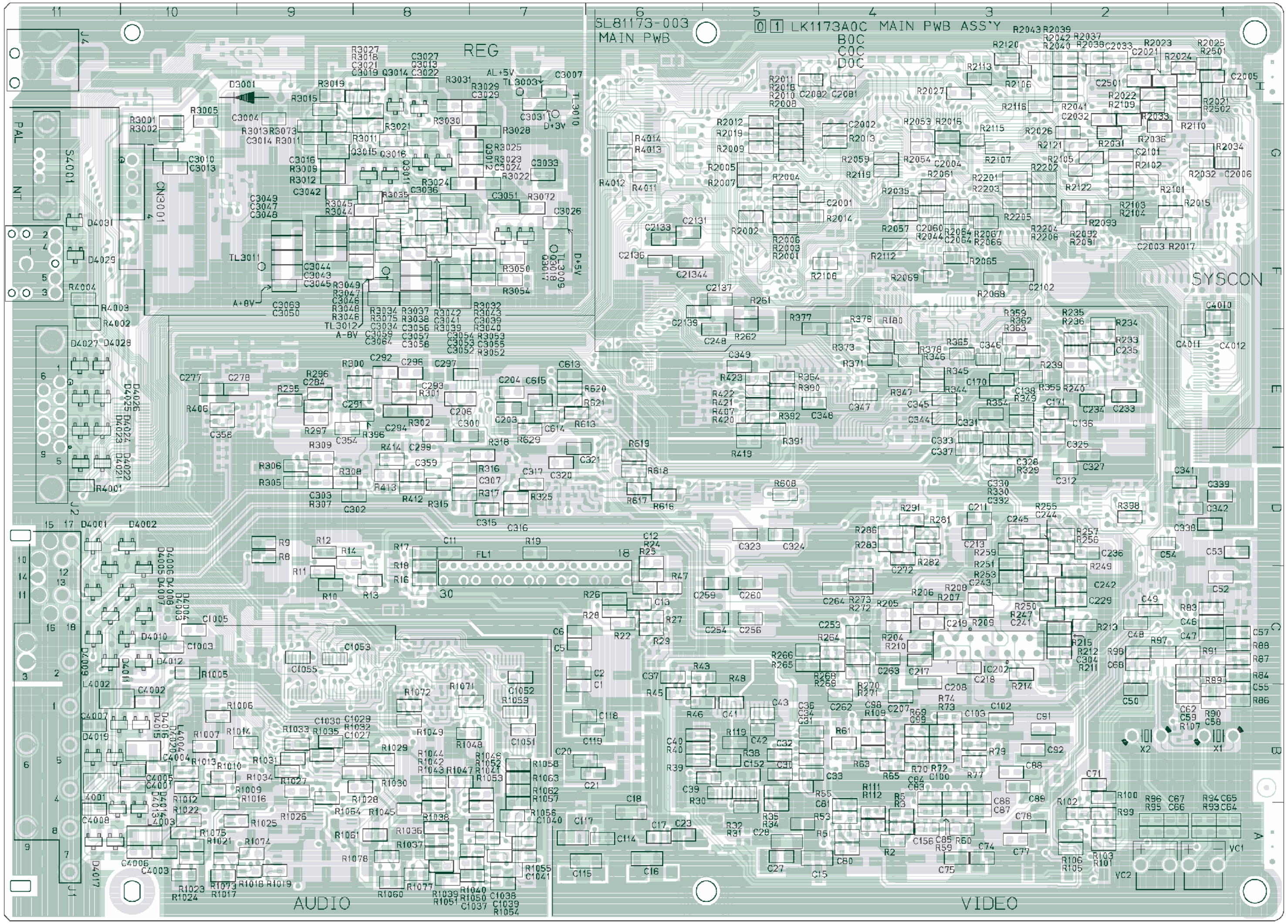
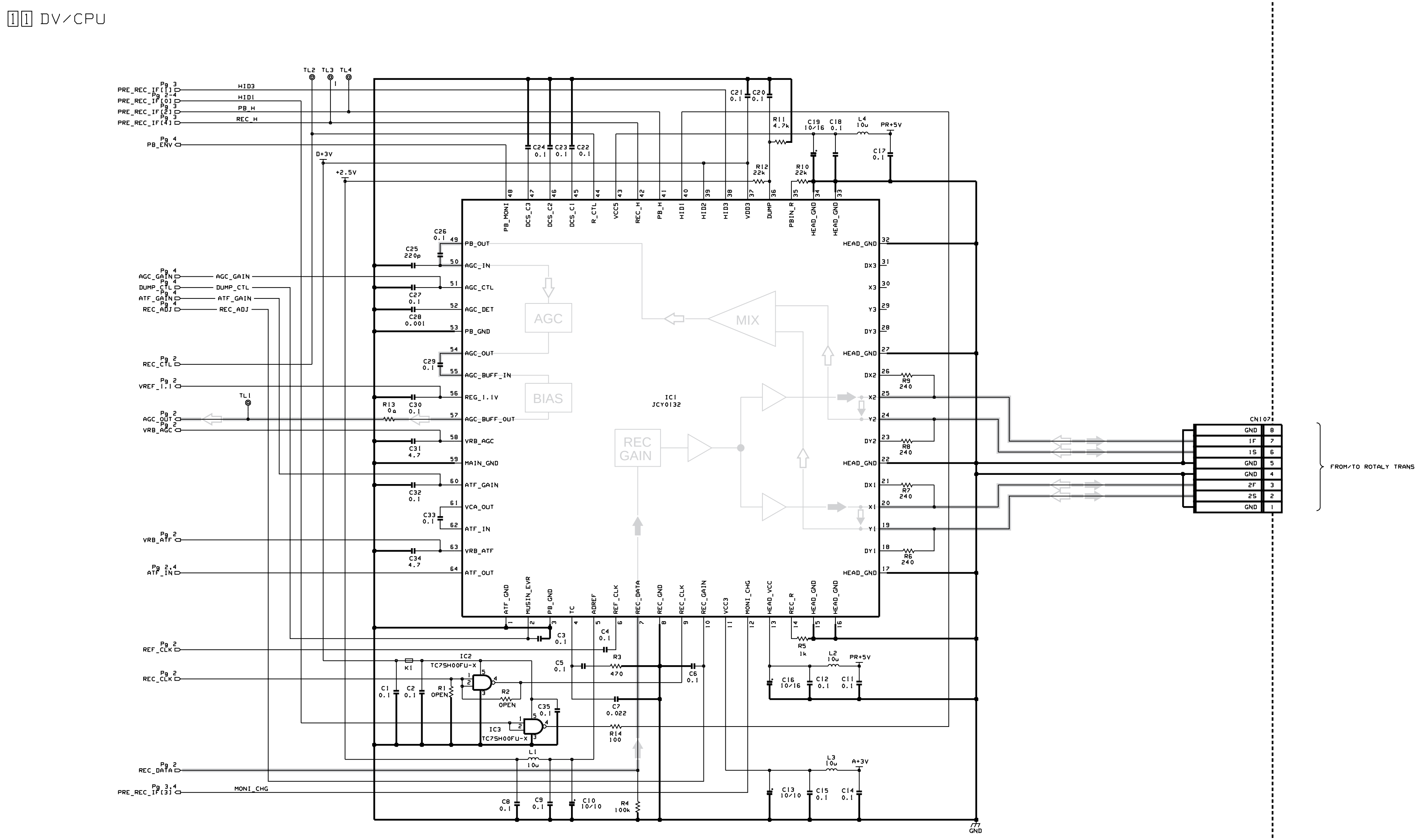
F3001	A-11H
J1	A-12C
J2	A-12E
J3	A-12F
J4	A-12H
L1	A-6C
L2	A-6C
L3	A-5A
L4	A-4A
L5	A-3A
L6	A-2A
L7	A-2B
L8	A-2B
L9	A-3B
L10	A-3B
L11	A-3B
L12	A-3B
L13	A-4B
L14	A-4B
L15	A-4B
L16	A-3B
L17	A-2B
L18	A-3B
L19	A-1D
L201	A-7E
L202	A-3C
L203	A-3D
L205	A-5C
L206	A-5C
L207	A-1E
L208	A-2E
L209	A-10E
L210	A-8E
L211	A-8E
L212	A-7E
L213	A-7E
L214	A-7D
L215	A-7D
L216	A-6E
L217	A-4D
L218	A-1D
L219	A-5E
L220	A-2C
L221	A-2C
L222	A-3D
L223	A-3D
L224	A-2E
L601	A-1F
L602	A-5D
L3001	A-7G
L3002	A-7G
L3003	A-7H
L3004	A-7H
L3005	A-7G
L3006	A-8F
L3007	A-9F
L3008	A-7F
L3009	A-8F
L4001	B-11B
L4002	B-10B
L4003	B-10A
L4004	B-10B
MA1	-12H
MA2	-1H
MA3	-1A
MA4	-12A
TL2001	A-1G
TL2002	A-1G
TL3001	A-9H
TL3002	A-7H
TL3003	B-7H
TL3004	A-10G
TL3005	A-6F
TL3006	A-6H
TL3007	A-9F
TL3008	A-7F
TL3009	B-6F
TL3010	B-6H
TL3011	B-9F
TL3012	B-8F
TL4001	A-11F

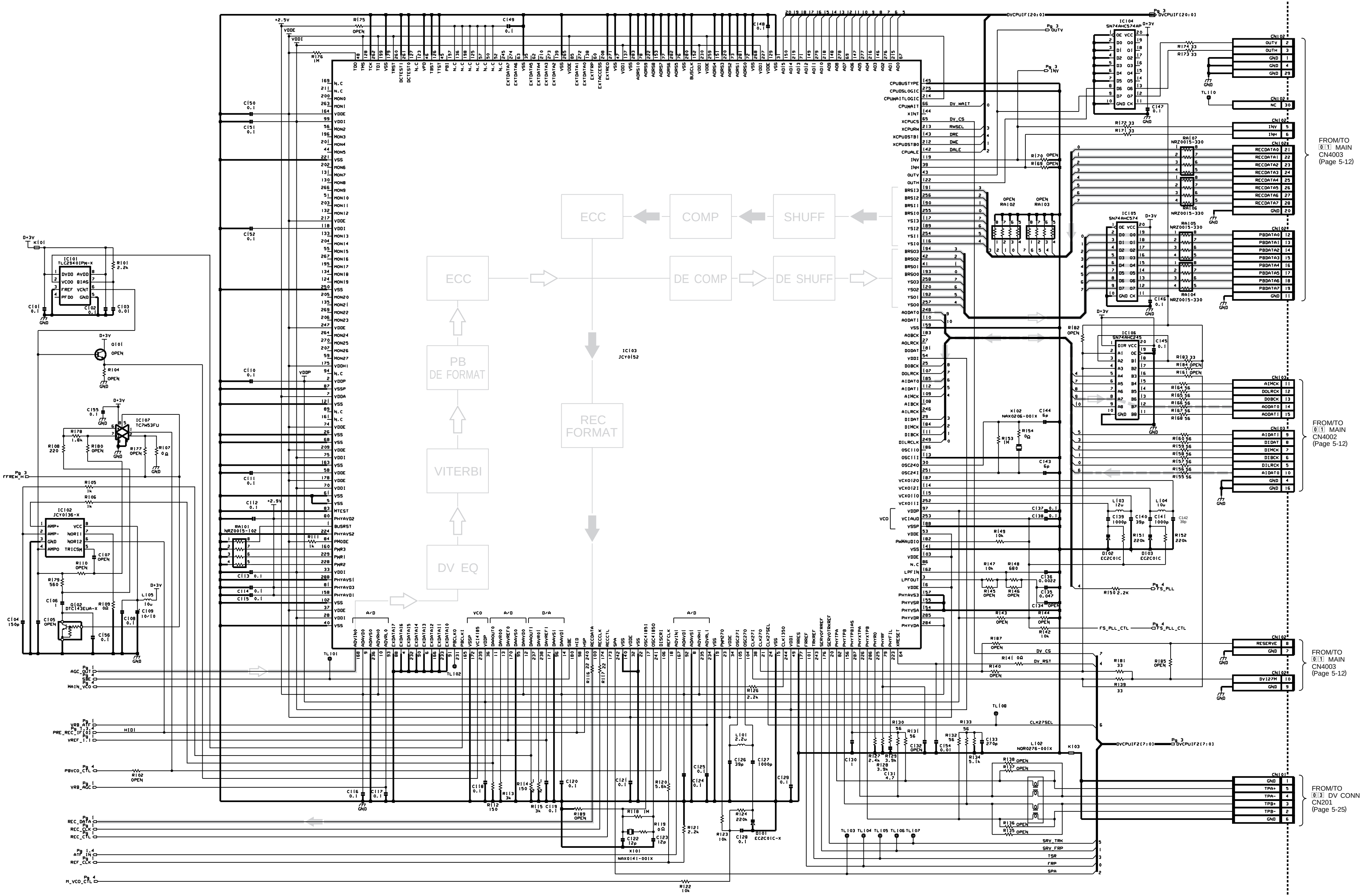
— SIDE B —



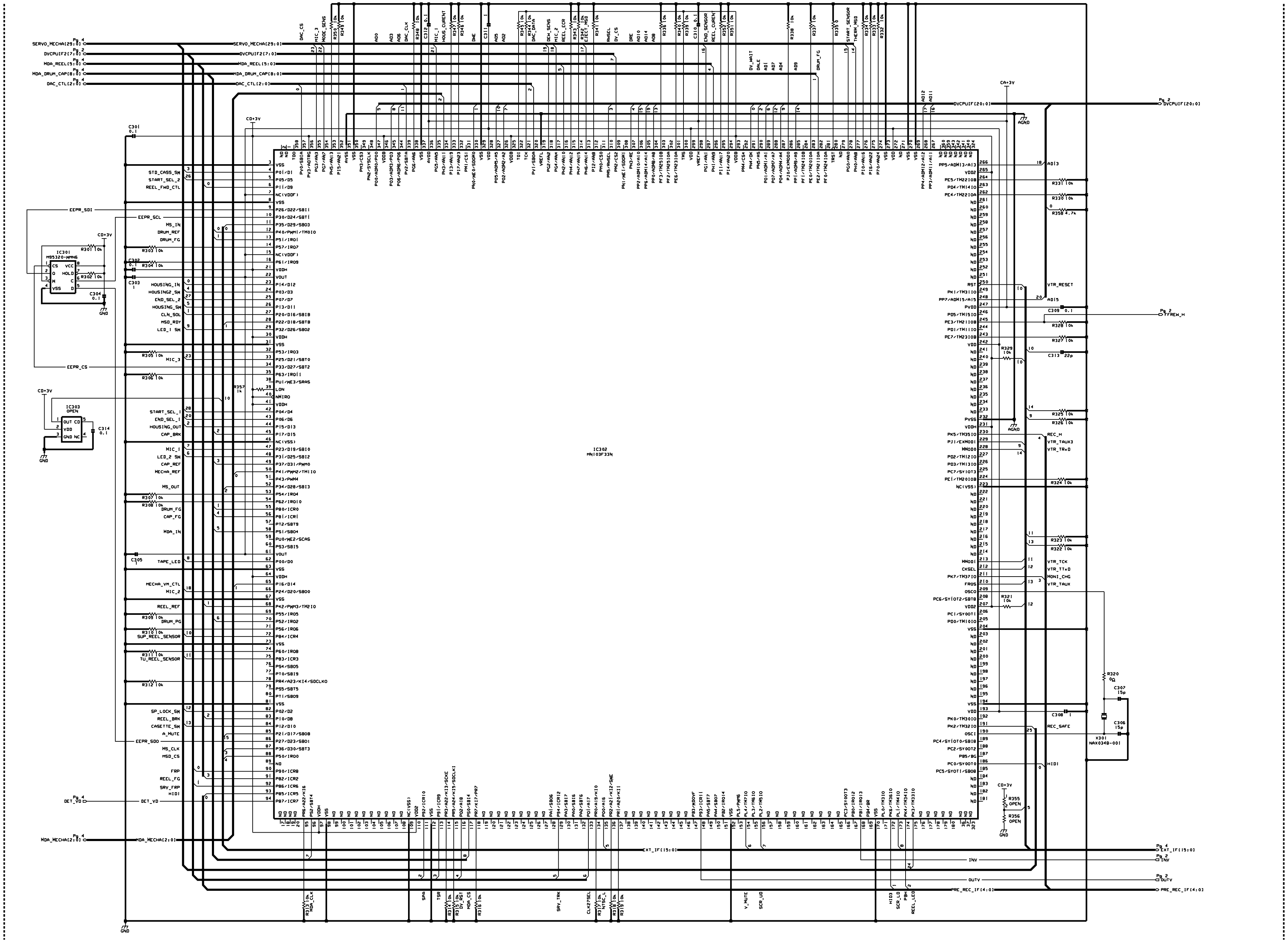
5.9 DV/CPU SCHEMATIC DIAGRAM 1/4


11 DV/CPU
Pg 3 PRE_REC_IF[1] HID3
Pg 2-4 PRE_REC_IF[0] HID1
Pg 3 PRE_REC_IF[2] PB_H
Pg 3 PRE_REC_IF[4] REC_H
Pg 4 PB_ENV
TL2 TL3 TL4
D+3V
+2.5V
Pg 4 AGC_GAIN AGC_GAIN
Pg 4 DUMP_CTL DUMP_CTL
Pg 4 ATF_GAIN ATF_GAIN
Pg 4 REC_ADJ REC_ADJ
Pg 2 REC_CTL
Pg 2 VREF_1.1
TL1
Pg 2 AGC_OUT
Pg 2 VRB_AGC
Pg 2 VRB_ATF
Pg 2,4 ATF_IN
Pg 2 REF_CLK
Pg 2 REC_CLK
Pg 2 REC_DATA
Pg 3,4 PRE_REC_IF[3] MONI_CHG
C26 0.1
C25 220p
C27 0.1
C28 0.001
C29 0.1
R13 0Ω
C30 0.1
C31 4.7
C32 0.1
C33 0.1
C34 4.7
49 PB_OUT
50 AGC_IN
51 AGC_CTL
52 AGC_DET
53 PB_GND
54 AGC_OUT
55 AGC_BUFF_IN
56 REG_1.1V
57 AGC_BUFF_OUT
58 VRB_AGC
59 MAIN_GND
60 ATF_GAIN
61 VCA_OUT
62 ATF_IN
63 VRB_ATF
64 ATF_OUT
48 PB_MONI
47 DCS_C3
46 DCS_C2
45 DCS_C1
44 R_CTL
43 VCC5
42 REC_H
41 PB_H
40 HID1
39 HID2
38 HID3
37 VDD3
36 DUMP
35 PBIN_R
34 HEAD_GND
33 HEAD_GND
C24 0.1
C23 0.1
C22 0.1
C21 0.1
C20 0.1
R11 4.7k
R12 22k
R10 22k
C19 10/16
C18 0.1
L4 10u
PR+5V
C17 0.1
32 HEAD_GND
31 DX3
30 X3
29 Y3
28 DY3
27 HEAD_GND
26 DX2
25 X2
24 Y2
23 DY2
22 HEAD_GND
21 DX1
20 X1
19 Y1
18 DY1
17 HEAD_GND
R9 240
R8 240
R7 240
R6 240
AGC
MIX
BIAS
REC GAIN
IC1 JCY0132
CN107
GND 8
1F 7
1S 6
GND 5
GND 4
2F 3
2S 2
GND 1
FROM/TO ROTALY TRANS
1 ATF_GND
2 MUSIN_EVR
3 PB_GND
4 TC
5 ADREF
6 REF_CLK
7 REC_DATA
8 REC_GND
9 REC_CLK
10 REC_GAIN
11 VCC3
12 MONI_CHG
13 HEAD_VCC
14 REC_R
15 HEAD_GND
16 HEAD_GND
C3 0.1
C4 0.1
R3 470
C5 0.1
C6 0.1
C7 0.022
R14 100
IC2 TC7SH00FU-X
IC3 TC7SH00FU-X
K1
C1 0.1
C2 0.1
R1 OPEN
R2 OPEN
C35 0.1
L1 10u
C8 0.1
C9 0.1
C10 10/10
R4 100k
R5 1k
L2 10u
PR+5V
C16 10/16
C12 0.1
C11 0.1
L3 10u
A+3V
C13 10/10
C15 0.1
C14 0.1
GND

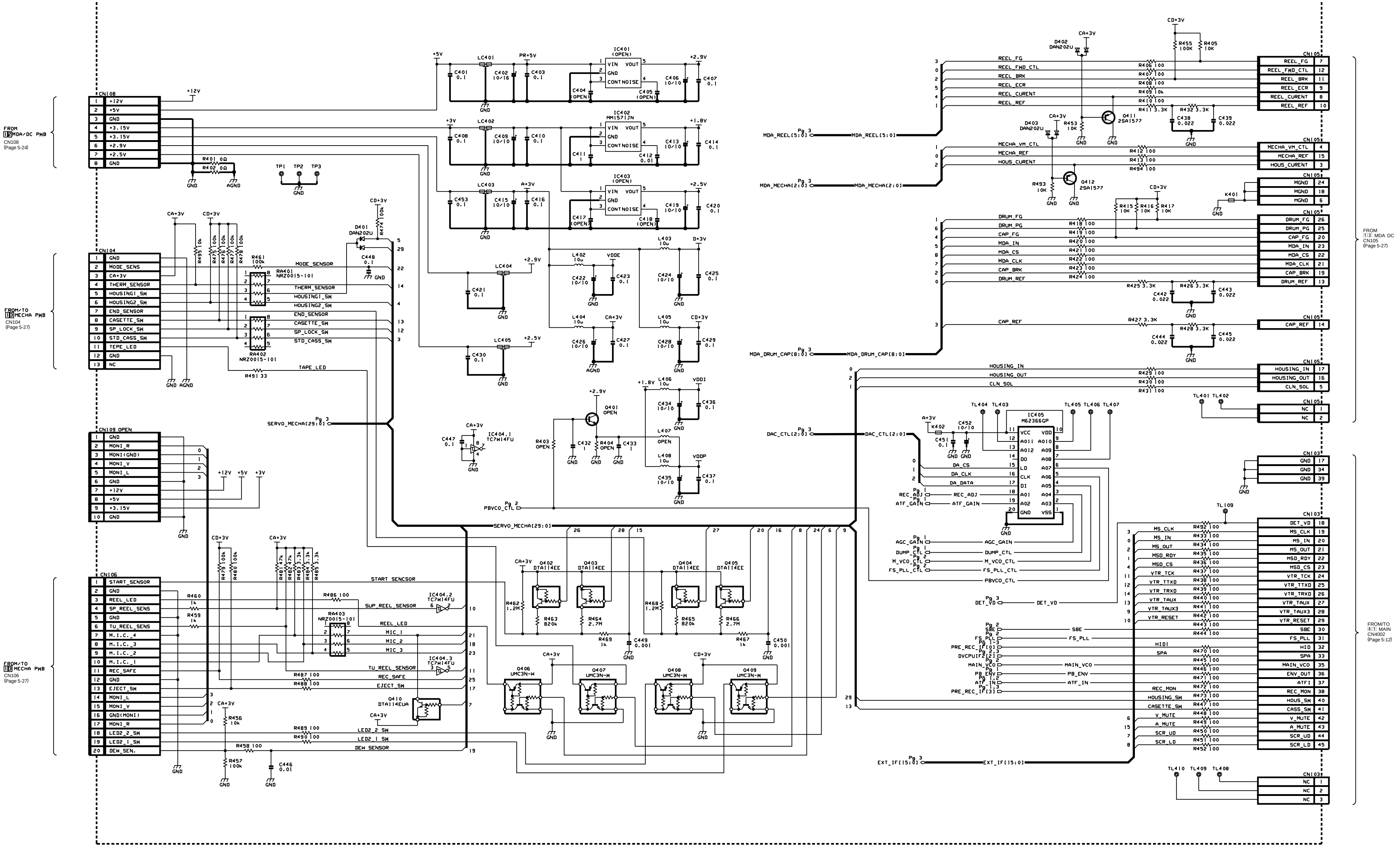
DV/CPU SCHEMATIC DIAGRAM 2/4


IC103
JCY0152
ECC
COMP
SHUFF
ECC
DE COMP
DE SHUFF
PB
DE FORMAT
REC
FORMAT
VITERBI
DV EQ
IC101
TLC2940IPW-X
IC102
JCY0136-X
IC104
SN74AHC574AP
IC105
SN74AHC574
IC106
SN74AHC245
IC107
TC7W53FU
X101
NAX0141-001X
X102
NAX0206-001X
DVCPUIF[20:0]
DVCPUIF2[7:0]
FFREW_H
AGC_OUT
SBC
MAIN_VCO
VRB_ATF
PRE_REC_IF[0]
VREF_1
PBVCO_CTL
VRB_AGC
REC_DATA
REC_CLK
REC_CTL
ATF_IN
REF_CLK
M_VCO_CTL
FS_PLL
FS_PLL_CTL
CN102
CN103
CN101
FROM/TO
01 MAIN
CN4003
(Page 5-12)
FROM/TO
01 MAIN
CN4002
(Page 5-12)
FROM/TO
01 MAIN
CN4003
(Page 5-12)
FROM/TO
03 DV CONN
CN201
(Page 5-25)

DV/CPU SCHEMATIC DIAGRAM 3/4


SERVO_MECHA[29:0]
DVCPUIF2[7:0]
MDA_REEL[5:0]
MDA_DRUM_CAP[8:0]
DAC_CTL[2:0]
EEPR_SDI
EEPR_SCL
EEPR_CS
EEPR_SDO
IC301
M95320-MN6
IC303
OPEN
IC302
MN103F33N
DVCPUIF[20:0]
TFREW_H
EXT_IF[15:0]
INV
OUTV
PRE_REC_IF[4:0]
MDA_MECHA[2:0]
DET_VD
X301
NAX0348-001
CD+3V
CA+3V
AGND
GND
VTR_RESET
VTR_TCK
VTR_TxD
MONI_CHG
VTR_TAUX
REC_SAFE
HIDI

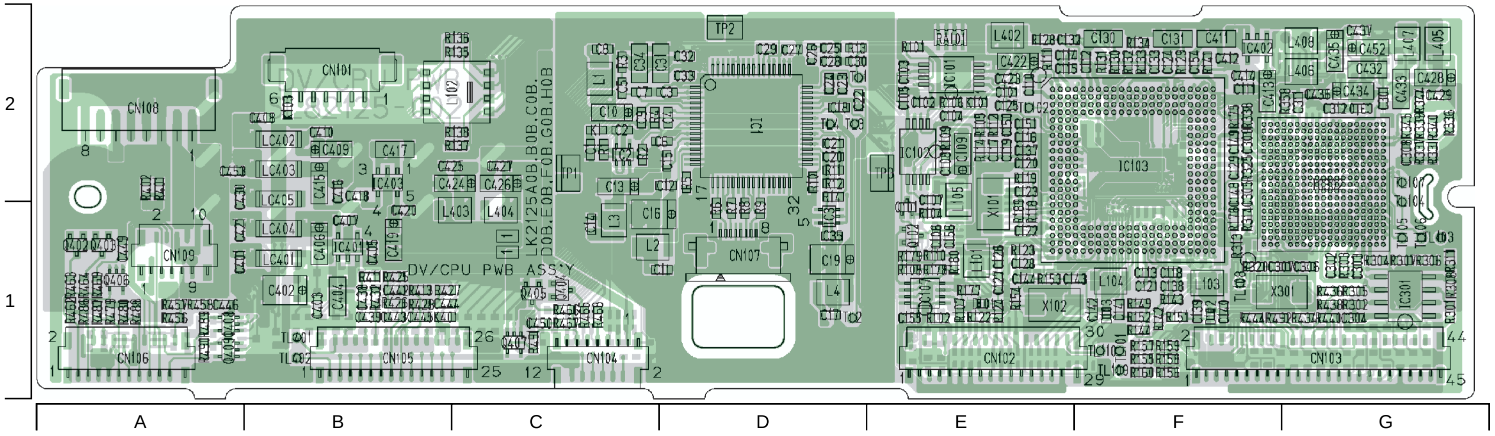
DV/CPU SCHEMATIC DIAGRAM 4/4



FROM 12 MDA/DC PWB
CN108 (Page 5-24)
CN108
+12V
+5V
GND
+3.15V
+3.15V
+2.9V
+2.5V
GND
R401 0Ω
R402 0Ω
AGND
TP1 TP2 TP3
IC401 (OPEN)
IC402 MM1571JN
IC403 (OPEN)
VIN VOUT GND CONTNOISE
LC401 LC402 LC403 LC404 LC405
PR+5V
+2.9V
+1.8V
+2.5V
C401 0.1
C402 10/16
C403 0.1
C404 (OPEN)
C405 (OPEN)
C406 10/10
C407 0.1
C408 0.1
C409 10/10
C410 0.1
C411 1
C412 0.01
C413 10/10
C414 0.1
C453 0.1
C415 10/10
C416 0.1
C417 (OPEN)
C418 (OPEN)
C419 10/10
C420 0.1
FROM/TO 13 MECHA PWB
CN104 (Page 5-27)
CN104
GND
MODE_SENS
CA+3V
THERM_SENSOR
HOUSING1_SN
HOUSING2_SN
END_SENSOR
CASETTE_SN
SP_LOCK_SN
STD_CASS_SN
TEPE_LED
GND
NC
RA401 NRZ0015-101
RA402 NRZ0015-101
R461 100k
R491 33
MODE_SENSOR
THERM_SENSOR
HOUSING1_SW
HOUSING2_SW
END_SENSOR
CASETTE_SW
SP_LOCK_SW
STD_CASS_SW
TAPE_LED
D401 DAN202U
R474 100k
C448 0.1
C421 0.1
C430 0.1
L402 10u
L403 10u
L404 10u
L405 10u
L406 10u
L407 OPEN
L408 10u
VDDE
D+3V
CA+3V
CD+3V
VDDI
VDDP
C422 10/10
C423 0.1
C424 10/10
C425 0.1
C426 10/10
C427 0.1
C428 10/10
C429 0.1
C434 10/10
C436 0.1
C435 10/10
C437 0.1
Q401 OPEN
R403 OPEN
C432 1
R404 OPEN
C433 1
IC404.1 TC7W14FU
C447 0.1
Pg 3 SERVO_MECHA[29:0]
Pg 2 PBVCO_CTL
SERVO_MECHA[29:0]
CN109 OPEN
GND
MONI_R
MONI(GND)
MONI_V
MONI_L
GND
+12V
+5V
+3.15V
GND
FROM/TO 13 MECHA PWB
CN106 (Page 5-27)
CN106
START_SENSOR
GND
REEL_LED
SP_REEL_SENS
GND
TU_REEL_SENS
M.I.C._4
M.I.C._3
M.I.C._2
M.I.C._1
REC_SAFE
GND
EJECT_SW
MONI_L
MONI_V
GND(MONI)
MONI_R
LED2_2_SN
LED2_1_SN
DEW_SEN.
R460 1k
R459 1k
R486 100
R487 100
R488 100
R489 100
R490 100
R458 100
R456 10k
R457 100k
C446 0.01
RA403 NRZ0015-101
START SENCSOR
SUP_REEL_SENSOR
REEL_LED
MIC_1
MIC_2
MIC_3
TU_REEL_SENSOR
REC_SAFE
EJECT_SW
LED2_2_SW
LED2_1_SW
DEW_SENSOR
IC404.2 TC7W14FU
IC404.3 TC7W14FU
Q410 DTA114EUA
Q402 DTA114EE
Q403 DTA114EE
Q404 DTA114EE
Q405 DTA114EE
R462 1.2M
R463 820k
R464 2.7M
R468 1.2M
R465 820k
R466 2.7M
R469 1k
R467 1k
C449 0.001
C450 0.001
Q406 UMC3N-W
Q407 UMC3N-W
Q408 UMC3N-W
Q409 UMC3N-W
Pg 3 MDA_REEL[5:0]
Pg 3 MDA_MECHA[2:0]
Pg 3 MDA_DRUM_CAP[8:0]
REEL_FG
REEL_FWD_CTL
REEL_BRK
REEL_ECR
REEL_CURENT
REEL_REF
D402 DAN202U
D403 DAN202U
Q411 2SA1577
Q412 2SA1577
R455 100K
R405 10K
R406 100
R407 100
R408 100
R409 10k
R410 100
R411 3.3K
R432 3.3K
C438 0.022
C439 0.022
R453 10K
R493 10K
MECHA_VM_CTL
MECHA_REF
HOUS_CURENT
R412 100
R413 100
R494 100
K401
R415 10K
R416 10K
R417 10K
DRUM_FG
DRUM_PG
CAP_FG
MDA_IN
MDA_CS
MDA_CLK
CAP_BRK
DRUM_REF
R418 100
R419 100
R420 100
R421 100
R422 100
R423 100
R424 100
R425 3.3K
R426 3.3K
C442 0.022
C443 0.022
CAP_REF
R427 3.3K
R428 3.3K
C444 0.022
C445 0.022
FROM 12 MDA DC CN105 (Page 5-27)
CN105
REEL_FG 7
REEL_FWD_CTL 12
REEL_BRK 11
REEL_ECR 9
REEL_CURENT 8
REEL_REF 10
MECHA_VM_CTL 4
MECHA_REF 15
HOUS_CURENT 3
MGND 24
MGND 18
MGND 6
DRUM_FG 26
DRUM_PG 25
CAP_FG 20
MDA_IN 23
MDA_CS 22
MDA_CLK 21
CAP_BRK 19
DRUM_REF 13
CAP_REF 14
HOUSING_IN 17
HOUSING_OUT 16
CLN_SOL 5
NC 1
NC 2
HOUSING_IN
HOUSING_OUT
CLN_SOL
R429 100
R430 100
R431 100
TL401 TL402
TL404 TL403 TL405 TL406 TL407
IC405 M62366GP
VCC VDD AO11 AO10 AO12 AO9 DO AO8 LD AO7 CLK AO6 DI AO5 AO1 AO4 AO2 AO3 GND VSS
K402
C452 10/10
C451 0.1
Pg 3 DAC_CTL[2:0]
DA_CS
DA_CLK
DA_DATA
Pg 1 REC_ADJ
Pg 1 ATF_GAIN
Pg 1 AGC_GAIN
Pg 1 DUMP_CTL
Pg 2 M_VCO_CTL
Pg 2 FS_PLL_CTL
PBVCO_CTL
Pg 3 DET_VD
DET_VD
Pg 2 SBE
Pg 2 FS_PLL
Pg 3 PRE_REC_IF[0]
Pg 3 DVCPUIF2[2]
Pg 2 MAIN_VCO
Pg 2 PB_ENV
Pg 2 ATF_IN
Pg 3 PRE_REC_IF[3]
SBE
FS_PLL
MAIN_VCO
PB_ENV
ATF_IN
Pg 3 EXT_IF[5:0]
EXT_IF[5:0]
TL109
MS_CLK
MS_IN
MS_OUT
MSD_RDY
MSD_CS
VTR_TCK
VTR_TTXD
VTR_TRXD
VTR_TAUX
VTR_TAUX3
VTR_RESET
HID1
SPA
REC_MON
HOUSING_SW
CASETTE_SW
V_MUTE
A_MUTE
SCR_UD
SCR_LD
R492 100
R433 100
R434 100
R435 100
R436 100
R437 100
R438 100
R439 100
R440 100
R441 100
R442 100
R443 100
R444 100
R470 100
R445 100
R446 100
R471 100
R472 100
R473 100
R447 100
R448 100
R449 100
R450 100
R451 100
R452 100
CN103
GND 17
GND 34
GND 39
DET_VD 18
MS_CLK 19
MS_IN 20
MS_OUT 21
MSD_RDY 22
MSD_CS 23
VTR_TCK 24
VTR_TTXD 25
VTR_TRXD 26
VTR_TAUX 27
VTR_TAUX3 28
VTR_RESET 29
SBE 30
FS_PLL 31
HID 32
SPA 33
MAIN_VCO 35
ENV_OUT 36
ATF1 37
REC_MON 38
HOUS_SW 40
CASS_SW 41
V_MUTE 42
A_MUTE 43
SCR_UD 44
SCR_LD 45
NC 1
NC 2
NC 3
TL410 TL409 TL408
FROM/TO 11 MAIN CN4002 (Page 5-12)

5.10 DV/CPU CIRCUIT BOARD

– SIDE A –



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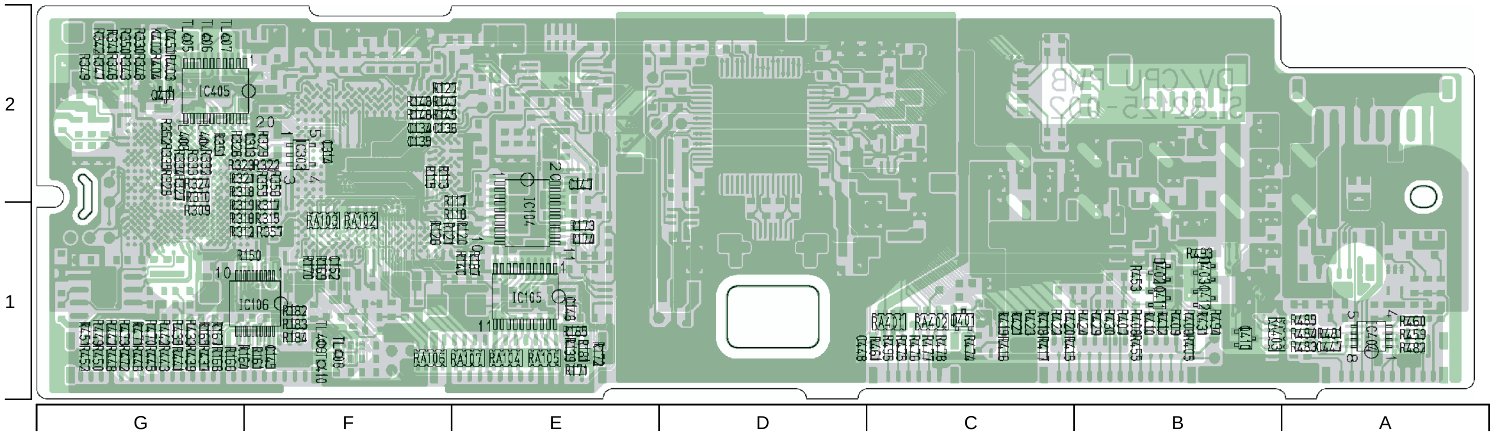


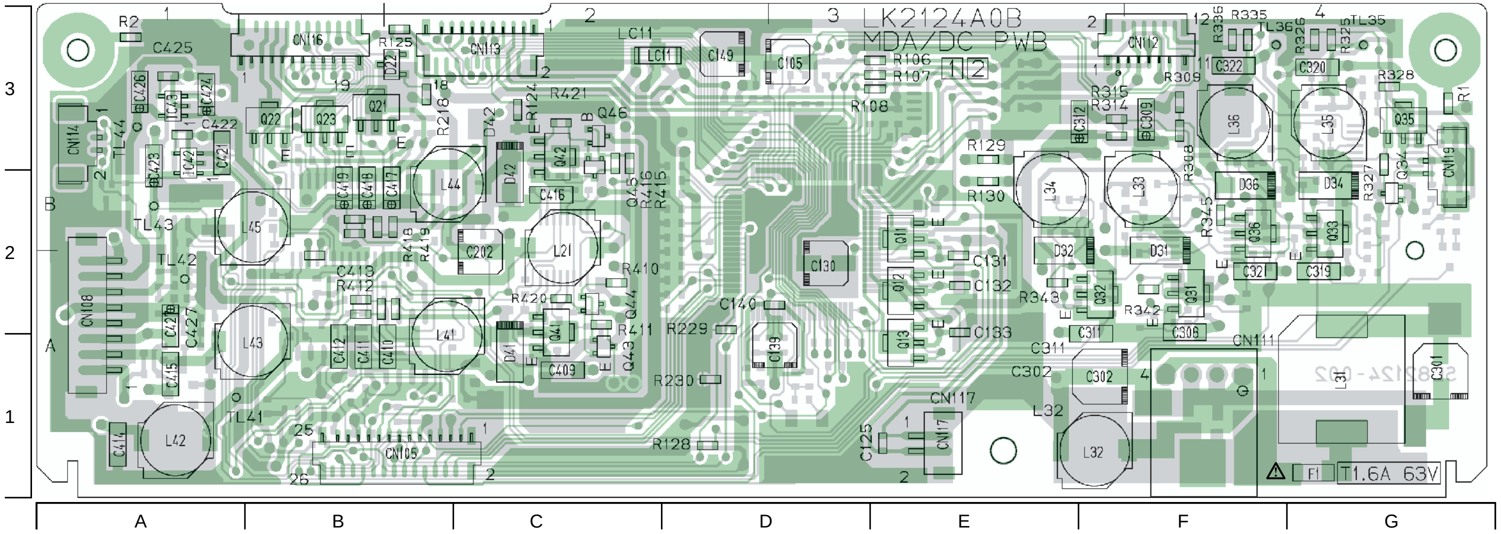
● ADDRESS TABLE OF BOARD PARTS
Each address may have an address error by one interval.

A-1C
Side
Y axis
X axis

IC1	A-2D	R136	A-2C	R339	A-2G	R473	B-1G	C119	A-2E	C439	A-1B
IC2	A-2C	R137	A-2C	R340	A-2G	R474	B-1C	C120	A-2E	C442	A-1B
IC3	A-1D	R138	A-2C	R341	B-2G	R475	B-1C	C121	A-1F	C443	A-1B
IC101	A-2E	R139	B-1E	R342	B-2G	R476	B-1C	C122	A-1E	C444	A-1B
IC102	A-2E	R140	B-1E	R343	B-2G	R477	B-1C	C123	A-2E	C445	A-1B
IC103	A-2F	R141	A-2F	R344	A-2G	R478	B-1C	C124	A-2F	C446	A-1A
IC104	B-1E	R142	A-1F	R345	A-2G	R479	A-1A	C125	A-2E	C447	B-1A
IC105	B-1E	R143	A-1F	R346	B-2G	R480	A-1A	C126	A-1E	C448	B-1C
IC106	B-1F	R144	A-1F	R347	B-2G	R481	B-1A	C127	A-1E	C449	A-1A
IC107	A-1E	R145	B-2F	R348	B-2G	R482	B-1A	C128	A-1E	C450	A-1C
IC301	A-1G	R146	B-2F	R349	B-2G	R483	B-1A	C129	A-2F	C451	B-2G
IC302	A-2G	R147	B-2F	R350	B-2G	R484	B-1A	C130	A-2F	C452	A-2G
IC303	B-2F	R148	B-2F	R351	B-2G	R485	B-1A	C131	A-2F	C453	A-2A
IC401	A-1B	R149	A-1F	R352	B-2G	R486	A-1A	C132	A-2F		
IC402	A-2F	R150	B-1F	R355	B-2F	R487	A-1A	C133	A-2F	X101	A-1E
IC403	A-2B	R151	A-1F	R356	B-2F	R488	A-1A	C134	B-2F	X102	A-1E
IC404	B-1A	R152	A-1F	R357	B-1F	R489	A-1A	C135	B-2F	X301	A-1G
IC405	B-2G	R153	A-1E	R358	A-2G	R490	A-1A	C136	B-2F		
		R154	A-1E	R401	A-2A	R491	A-1C	C137	A-2E	TP1	A-2C
Q101	A-1E	R155	A-1F	R402	A-2A	R492	A-1G	C138	A-1F	TP2	A-2D
Q102	A-1E	R156	A-1F	R403	B-2G	R493	B-1B	C139	A-1F	TP3	A-2E
Q401	B-2G	R157	A-1F	R404	B-2G	R494	B-1B	C140	A-1F		
Q402	A-1A	R158	A-1F	R405	B-1B	R495	B-1C	C141	A-1F	CN101	A-2B
Q403	A-1A	R159	A-1F	R406	B-1B			C142	A-1F	CN102	A-1E
Q404	A-1C	R160	A-1F	R407	B-1B	RA101	A-2E	C143	A-1F	CN103	A-1G
Q405	A-1C	R161	B-1F	R408	B-1B	RA102	B-1F	C144	A-1E	CN104	A-1C
Q406	A-1A	R164	B-1F	R409	B-1B	RA103	B-1F	C145	B-1F	CN105	A-1B
Q407	A-1C	R165	B-1G	R410	B-1B	RA104	B-1E	C146	B-1E	CN106	A-1A
Q408	A-1A	R166	B-1G	R411	A-1B	RA105	B-1E	C147	B-2E	CN107	A-1D
Q409	A-1A	R167	B-1G	R412	B-1B	RA106	B-1F	C148	A-2F	CN108	A-2A
Q410	B-1B	R168	B-1G	R413	A-1B	RA107	B-1E	C149	A-2F	CN109	A-1A
Q411	B-1B	R169	B-1F	R415	B-1B	RA401	B-1C	C150	A-2E		
Q412	B-1B	R170	B-1F	R416	B-1C	RA402	B-1C	C151	A-2E	K1	A-2C
		R171	B-1E	R417	B-1C	RA403	B-1A	C152	B-1F	K101	A-2E
D101	A-1E	R172	B-1E	R418	B-1C			C154	A-2F	K103	A-2B
D102	A-1F	R173	B-1E	R419	B-1C	C1	A-2C	C155	A-1E	K401	A-1B
D103	A-1F	R174	B-1E	R420	B-1B	C2	A-2C	C156	A-1E	K402	B-2G
D401	B-1C	R175	A-2F	R421	B-1C	C3	A-2D	C301	A-2G		
D402	B-1B	R176	A-1F	R422	B-1C	C4	A-2D	C302	A-1G	LC401	A-1B
D403	B-1B	R177	A-1E	R423	B-1C	C5	A-2C	C303	A-1G	LC402	A-2B
		R178	A-1E	R424	B-1B	C6	A-2D	C304	A-1G	LC403	A-2B
R1	A-2C	R179	A-1E	R425	A-1B	C7	A-2C	C305	A-2F	LC404	A-1B
R2	A-2C	R180	A-1E	R426	A-1B	C8	A-2C	C306	A-1G	LC405	A-2B
R3	A-2C	R181	B-1E	R427	A-1B	C9	A-2C	C307	A-1G		
R4	A-2D	R182	B-1F	R428	A-1B	C10	A-2C	C308	A-2G	L1	A-2C
R5	A-2D	R183	B-1F	R429	B-1B	C11	A-1D	C309	A-2F	L2	A-1C
R6	A-1D	R184	B-1F	R430	B-1B	C12	A-2D	C310	A-2G	L3	A-1C
R7	A-1D	R185	B-1E	R431	B-1B	C13	A-2C	C311	A-2G	L4	A-1D
R8	A-1D	R187	B-1E	R432	A-1B	C14	A-1C	C312	A-2G	L101	A-1E
R9	A-1D	R189	A-1E	R433	B-1G	C15	A-2D	C313	B-2F	L102	A-2C
R10	A-2D	R301	A-1G	R434	A-1G	C16	A-1D	C314	B-2F	L103	A-1F
R11	A-2D	R302	A-1G	R435	B-1G	C17	A-1D	C401	A-1A	L104	A-1F
R12	A-2D	R303	A-1G	R436	A-1G	C18	A-2D	C402	A-1B	L105	A-2E
R13	A-2D	R304	A-1G	R437	B-1G	C19	A-1D	C403	A-1B	L402	A-2E
R14	A-2D	R305	A-1G	R438	A-1G	C20	A-2D	C404	A-1B	L403	A-1C
R101	A-2E	R306	A-1G	R439	B-1G	C21	A-2D	C405	A-1B	L404	A-1C
R102	A-1E	R307	A-1G	R440	A-1G	C22	A-2E	C406	A-1B	L405	A-2G
R104	A-1E	R308	A-1G	R441	B-1G	C23	A-2D	C407	A-1B	L406	A-2G
R105	A-2E	R309	B-1G	R442	B-1G	C24	A-2D	C408	A-2B	L407	A-2G
R106	A-2E	R310	B-2G	R443	B-1G	C25	A-2D	C409	A-2B	L408	A-2G
R107	A-1E	R311	A-1G	R444	A-1F	C26	A-2D	C410	A-2B		
R108	A-1E	R312	B-1F	R445	B-1G	C27	A-2D	C411	A-2F	TL1	A-2E
R109	A-2E	R313	A-1F	R446	B-1G	C28	A-2D	C412	A-2F	TL2	A-1D
R110	A-1E	R314	A-1F	R447	B-1G	C29	A-2D	C413	A-2F	TL3	A-2D
R111	A-2E	R315	B-1F	R448	B-1G	C30	A-2D	C414	A-2F	TL4	A-2D
R112	A-2E	R316	B-1F	R449	B-1G	C31	A-2D	C415	A-2B	TL101	A-1F
R113	B-2F	R317	B-1F	R450	B-1G	C32	A-2D	C416	A-2B	TL102	A-2E
R114	A-2E	R318	B-2F	R451	B-1G	C33	A-2D	C417	A-2B	TL103	A-1G
R115	B-2F	R319	B-1F	R452	B-1G	C34	A-2C	C418	A-2B	TL104	A-2G
R116	B-1E	R320	A-1F	R453	B-1B	C35	A-1D	C419	A-1B	TL105	A-1G
R117	B-2E	R321	B-2F	R455	B-1B	C101	A-2E	C420	A-1B	TL106	A-1G
R118	A-1E	R322	B-2F	R456	A-1A	C102	A-2E	C421	A-1A	TL107	A-2G
R119	A-2E	R323	B-2F	R457	A-1A	C103	A-2E	C422	A-2E	TL108	A-1F
R120	B-1E	R324	B-2G	R458	A-1A	C104	A-2E	C423	A-2E	TL109	A-1F
R121	B-1E	R325	A-2F	R459	B-1A	C105	A-2E	C424	A-2C	TL110	A-1F
R122	A-1E	R326	B-2G	R460	B-1A	C106	A-1E	C425	A-2C	TL401	A-1B
R123	A-1E	R327	B-2G	R461	B-1C	C107	A-2E	C426	A-2C	TL402	A-1B
R124	A-1E	R328	B-2G	R462	A-1A	C108	A-2E	C427	A-2C	TL403	B-2G
R126	B-1F	R329	B-2F	R463	A-1A	C109	A-2E	C428	A-2G	TL404	B-2G
R127	B-2F	R330	B-2G	R464	A-1A	C110	A-2E	C429	A-2G	TL405	B-2G
R128	A-2E	R331	A-2G	R465	A-1C	C111	A-2F	C430	A-2A	TL406	B-2G
R129	A-2F	R332	B-2G	R466	A-1C	C112	A-2F	C432	A-2G	TL407	B-2G
R130	A-2F	R333	B-2G	R467	A-1C	C113	A-1F	C433	A-2G	TL408	B-1F
R131	A-2F	R334	B-2G	R468	A-1C	C114	A-2F	C434	A-2G	TL409	B-1F
R132	A-2F	R335	B-2G	R469	A-1A	C115	A-2F	C435	A-2G	TL410	B-1F
R133	A-2F	R336	A-2G	R470	B-1G	C116	A-2E	C436	A-2G		
R134	A-2F	R337	A-2G	R471	B-1G	C117	A-2E	C437	A-2G		
R135	A-2C	R338	A-2F	R472	B-1G	C118	A-1F	C438	A-1B		

5.11 MDA/DC CIRCUIT BOARD

– SIDE A –

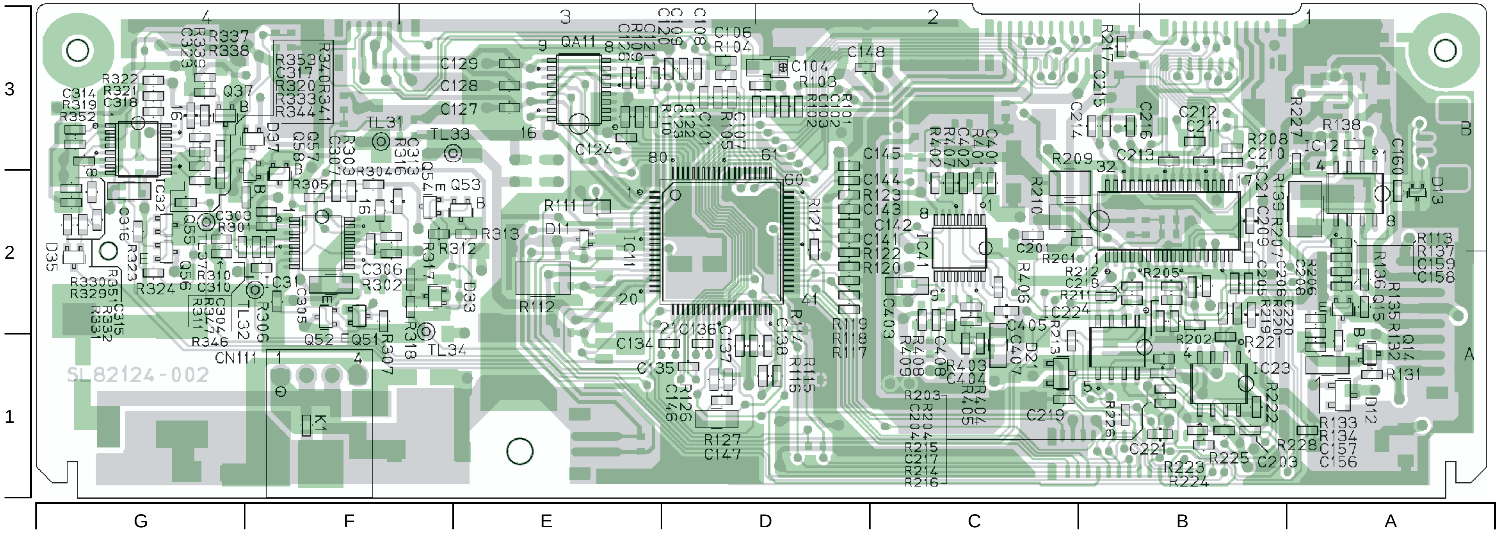


⚠ 警 告

⚠ 印の部品は安全上重要な部品です。
交換するときは、安全上および性能維持のため
必ず指定の部品をご使用ください。

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

– SIDE B –

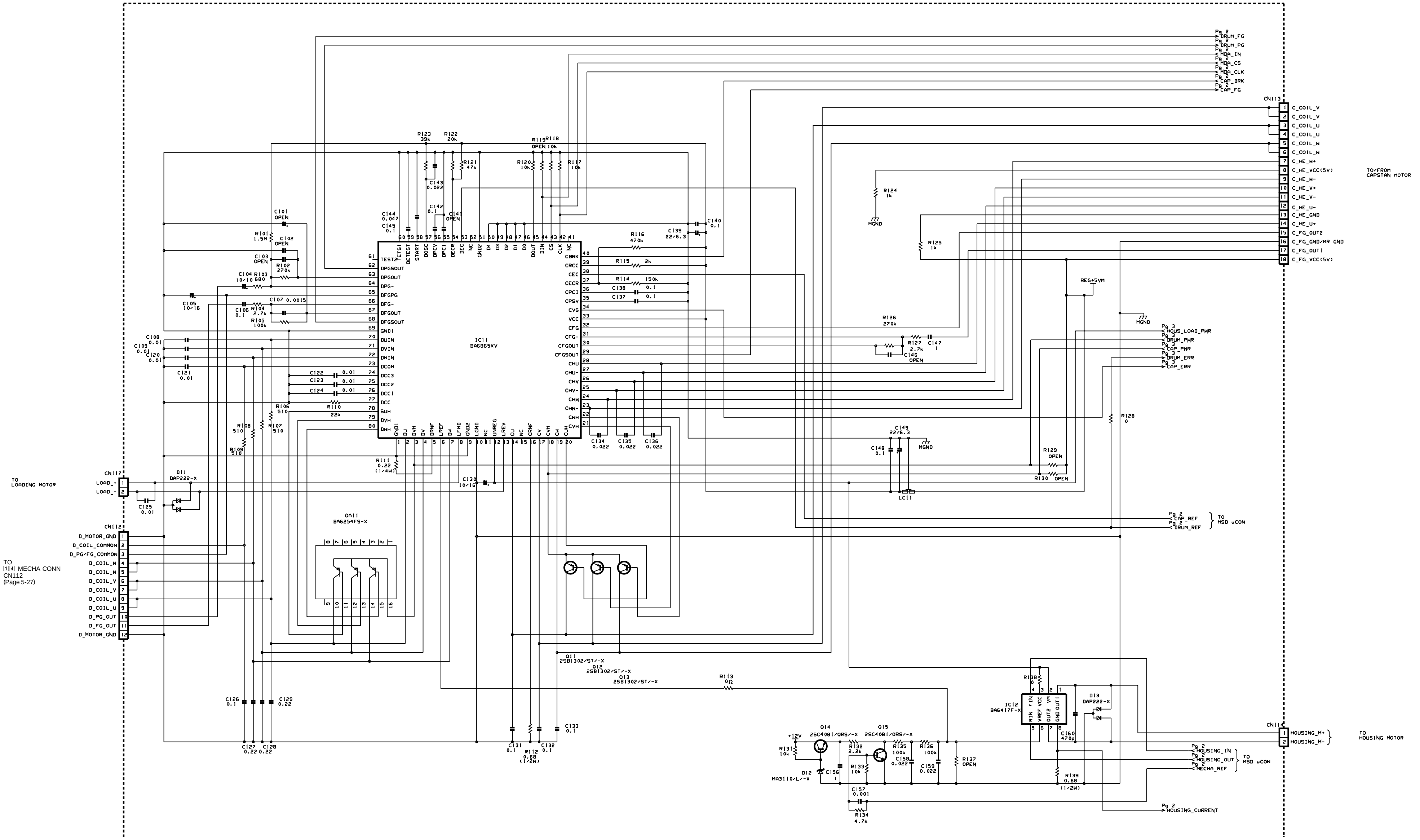


● ADDRESS TABLE OF BOARD PARTS
Each address may have an address error by one interval.

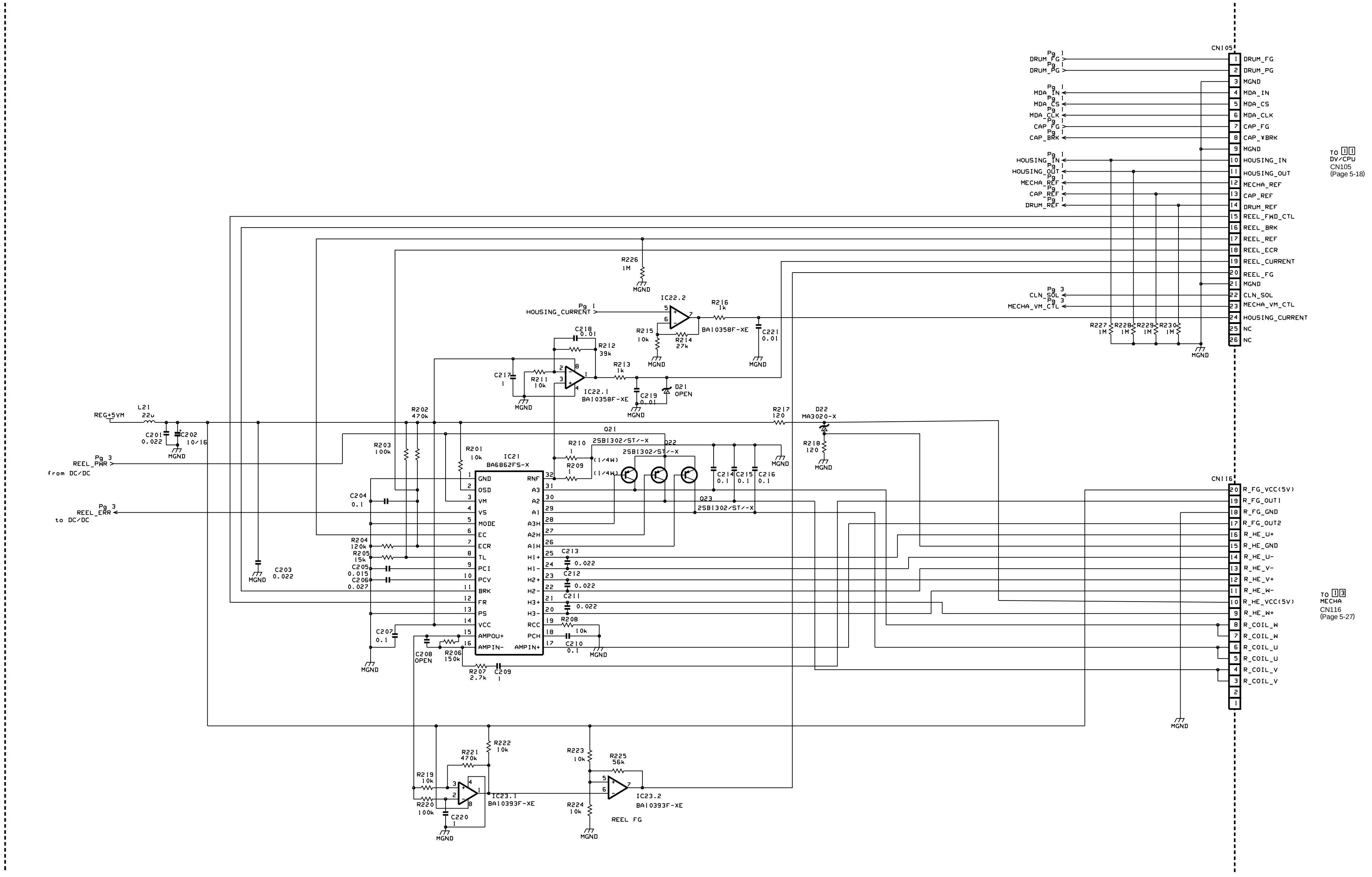
A-1C
Side
Y axis
X axis

IC11	B-2D	R120	B-2D	R328	A-3G	C142	B-2D	C422	A-3A
IC12	B-2A	R121	B-2D	R329	B-2G	C143	B-2D	C423	A-2A
IC21	B-2B	R122	B-2D	R330	B-2G	C144	B-2D	C424	A-3A
IC22	B-1B	R123	B-2D	R331	B-2G	C145	B-2D	C425	A-3A
IC23	B-1B	R124	A-3C	R332	B-2G	C146	B-1D	C426	A-3A
IC31	B-2F	R125	A-3B	R333	B-2G	C147	B-1D	C427	A-2A
IC32	B-3G	R126	B-1D	R334	B-2F	C148	B-3C		
IC41	B-2C	R127	B-1D	R335	A-3F	C149	A-3D	CN105	A-1B
IC42	A-2A	R128	A-1D	R336	A-3F	C156	B-1A	CN108	A-2A
IC43	A-3A	R129	A-3E	R337	B-3G	C157	B-1A	CN111	A-1F
		R130	A-2E	R338	B-3G	C158	B-2A	CN112	A-3F
Q11	A-2E	R131	B-1A	R339	B-3G	C159	B-2A	CN113	A-3C
Q12	A-2E	R132	B-1A	R340	B-3G	C160	B-2A	CN114	A-3A
Q13	A-1E	R133	B-2A	R341	B-2G	C201	B-2C	CN116	A-3B
Q14	B-1A	R134	B-1A	R342	A-2F	C202	A-2C	CN117	A-1E
Q15	B-2A	R135	B-2A	R343	A-2E	C203	B-1B	CN119	A-2G
Q21	A-3B	R136	B-2A	R344	B-2G	C204	B-2B		
Q22	A-3B	R137	B-2A	R345	A-2F	C205	B-2B	K1	B-1F
Q23	A-3B	R138	B-3A	R346	B-2F	C206	B-2B		
Q31	A-2F	R139	B-2A	R347	B-2F	C207	A-2B	LC11	A-3C
Q32	A-2F	R201	B-2B	R348	B-2F	C208	B-2B		
Q33	A-2G	R202	B-2B	R351	B-2G	C209	B-2B	F1	A-1G
Q34	A-2G	R203	B-2B	R352	B-3G	C210	B-2B		
Q35	A-3G	R204	B-2B	R353	B-3G	C211	B-3B	L21	A-2C
Q36	A-2F	R205	B-2B	R401	B-2C	C212	B-3B	L31	A-1G
Q37	B-3G	R206	B-2B	R402	B-2C	C213	B-3B	L32	A-1F
Q41	A-1C	R207	B-2B	R403	B-2C	C214	B-3B	L33	A-2F
Q42	A-3C	R208	B-3B	R404	B-1C	C215	B-3B	L34	A-2E
Q43	A-1C	R209	B-2C	R405	B-1C	C216	B-3B	L35	A-3G
Q44	A-2C	R210	B-2C	R406	B-2C	C217	B-1B	L36	A-3F
Q45	A-2C	R211	B-2B	R407	B-2C	C218	B-2B	L41	A-1B
Q46	A-3C	R212	B-2B	R408	B-2C	C219	B-1C	L42	A-1A
Q51	B-2F	R213	B-1C	R409	B-2C	C220	B-2B	L43	A-1B
Q52	B-2F	R214	B-1B	R410	A-2C	C221	B-1B	L44	A-2B
Q53	B-2E	R215	B-1B	R411	A-2C	C301	A-1G	L45	A-2B
Q54	B-2F	R216	B-1B	R412	A-2B	C302	A-1F		
Q55	B-2G	R217	B-3B	R413	A-2B	C303	B-2F	QA11	B-3E
Q56	B-2G	R218	A-3B	R414	A-2B	C304	B-2F		
Q57	B-2F	R219	B-2B	R415	A-2C	C305	B-2F	TL31	B-3F
Q58	B-2F	R220	B-2B	R416	A-2C	C306	B-2F	TL32	B-2F
		R221	B-1B	R417	A-2B	C307	B-2F	TL33	B-3E
D11	B-2E	R222	B-1B	R418	A-2B	C308	A-1F	TL34	B-1F
D12	B-1A	R223	B-1B	R419	A-2B	C309	A-3F	TL35	A-3G
D13	B-2A	R224	B-1B	R420	A-2C	C310	B-2G	TL36	A-3F
D21	B-1C	R225	B-1B	R421	A-3C	C311	A-1F	TL37	B-2G
D22	A-3B	R226	B-1B			C312	A-3F	TL41	A-1A
D31	A-2F	R227	B-2A	C101	B-3D	C313	B-2F	TL42	A-2A
D32	A-2E	R228	B-1A	C102	B-3D	C314	B-3G	TL43	A-2A
D33	B-2F	R229	A-1D	C103	B-3D	C315	B-2G	TL44	A-3A
D34	A-2G	R230	A-1D	C104	B-3D	C316	B-2G		
D35	B-2G	R301	B-2F	C105	A-3D	C317	B-3G		
D36	A-2F	R302	B-2F	C106	B-3D	C318	B-3G		
D37	B-3F	R303	B-2F	C107	B-3D	C319	A-2G		
D41	A-1C	R304	B-2F	C108	B-3D	C320	A-3G		
D42	A-2C	R305	B-2F	C109	B-3D	C321	A-2F		
		R306	B-2F	C120	B-3D	C322	A-3F		
R1	A-3G	R307	B-2F	C121	B-3E	C323	B-3G		
R2	A-3A	R308	A-3F	C122	B-3E	C401	B-2C		
R101	B-3D	R309	A-3F	C123	B-3E	C402	B-2C		
R102	B-3D	R310	B-2G	C124	B-3E	C403	B-2C		
R103	B-3D	R311	B-2G	C125	A-1E	C404	B-2C		
R104	B-3D	R312	B-2F	C126	B-3E	C405	B-2C		
R105	B-3D	R313	B-2E	C127	B-3E	C407	B-1C		
R106	A-3E	R314	A-3F	C128	B-3E	C408	B-2C		
R107	A-3E	R315	A-3F	C129	B-3E	C409	A-1C		
R108	A-3E	R316	B-2F	C130	A-2D	C410	A-1B		
R109	B-3E	R317	B-2F	C131	A-2E	C411	A-1B		
R110	B-3E	R318	B-2F	C132	A-2E	C412	A-1B		
R111	B-2E	R319	B-3G	C133	A-1E	C413	A-2B		
R112	B-2E	R320	B-2G	C134	B-1D	C414	A-1A		
R113	B-2A	R321	B-3G	C135	B-1D	C415	A-1A		
R114	B-1D	R322	B-3G	C136	B-1D	C416	A-2C		
R115	B-1D	R323	B-2G	C137	B-1D	C417	A-2B		
R116	B-1D	R324	B-2G	C138	B-1D	C418	A-2B		
R117	B-2D	R325	A-3G	C139	A-1D	C419	A-2B		
R118	B-2D	R326	A-3G	C140	A-2D	C420	A-2B		
R119	B-2D	R327	A-2G	C141	B-2D	C421	A-3A		

5.12 MDA/DC SCHEMATIC DIAGRAM 1/4


Pg 2 DRUM_FG
Pg 2 DRUM_PG
Pg 2 MDA_IN
Pg 2 MDA_CS
Pg 2 MDA_CLK
Pg 2 CAP_BRK
Pg 2 CAP_FG
CN113
1 C_COIL_V
2 C_COIL_V
3 C_COIL_U
4 C_COIL_U
5 C_COIL_W
6 C_COIL_W
7 C_HE_W+
8 C_HE_VCC(5V)
9 C_HE_W-
10 C_HE_V+
11 C_HE_V-
12 C_HE_U-
13 C_HE_GND
14 C_HE_U+
15 C_FG_OUT2
16 C_FG_GND/MR GND
17 C_FG_OUT1
18 C_FG_VCC(5V)
TO/FROM CAPSTAN MOTOR
R124 1k
MGND
R125 1k
REG+5VM
MGND
Pg 3 HOUS_LOAD_PWR
Pg 3 DRUM_PWR
Pg 3 CAP_PWR
Pg 3 DRUM_ERR
Pg 3 CAP_ERR
R126 270k
R127 2.7k
C147 1
C146 OPEN
R128 0
C149 22/6.3
C148 0.1
MGND
R129 OPEN
R130 OPEN
LC11
Pg 2 CAP_REF
Pg 2 DRUM_REF
TO MSD uCON
R123 39k
R122 20k
R121 47k
C143 0.022
C142 0.1
C141 OPEN
C144 0.047
C145 0.1
R119 OPEN
R118 10k
R120 10k
R117 10k
C139 22/6.3
C140 0.1
R116 470k
R115 2k
R114 150k
C138 0.1
C137 0.1
IC11 BA6865KV
60 TETS1
59 DETEST
58 START
57 DOSC
56 DPCV
55 DPCI
54 DECR
53 DEC
52 NC
51 GND2
50 D4
49 D3
48 D2
47 D1
46 D0
45 DOUT
44 DIN
43 CS
42 CLK
41 NC
40 CBRK
39 CRCC
38 CEC
37 CECR
36 CPCI
35 CPSV
34 CVS
33 VCC
32 CFG
31 CFG-
30 CFGOUT
29 CFGSOUT
28 CHU
27 CHU-
26 CHV
25 CHV-
24 CHW
23 CHW-
22 CWH
21 CVH
61 TEST2
62 DPGSOUT
63 DPGOUT
64 DPG-
65 DFGPG
66 DFG-
67 DFGOUT
68 DFGSOUT
69 GND1
70 DUIN
71 DVIN
72 DWIN
73 DCOM
74 DCC3
75 DCC2
76 DCC1
77 DCC
78 SUH
79 DVH
80 DWH
1 GND1
2 DU
3 DVM
4 DV
5 DRNF
6 LREF
7 DW
8 LFWD
9 GND2
10 LGND
11 NC
12 UNREG
13 LREV
14 CU
15 NC
16 CRNF
17 CV
18 CVM
19 CW
20 CUH
C134 0.022
C135 0.022
C136 0.022
C101 OPEN
R101 1.5M
C102 OPEN
C103 OPEN
R102 270k
C104 10/10
R103 680
C105 10/16
C107 0.0015
C106 0.1
R104 2.7k
R105 100k
C108 0.01
C109 0.01
C120 0.01
C121 0.01
C122 0.01
C123 0.01
C124 0.01
R106 510
R110 22k
R108 510
R107 510
R109 510
R111 0.22 (1/4W)
C130 10/16
TO LOADING MOTOR
CN117
LOAD_+ 1
LOAD_- 2
D11 DAP222-X
C125 0.01
CN112
D_MOTOR_GND 1
D_COIL_COMMON 2
D_PG/FG_COMMON 3
D_COIL_W 4
D_COIL_W 5
D_COIL_V 6
D_COIL_V 7
D_COIL_U 8
D_COIL_U 9
D_PG_OUT 10
D_FG_OUT 11
D_MOTOR_GND 12
TO
1 4 MECHA CONN
CN112
(Page 5-27)
QA11 BA6254FS-X
Q11 2SB1302/ST/-X
Q12 2SB1302/ST/-X
Q13 2SB1302/ST/-X
R113 0Ω
C126 0.1
C127 0.22
C128 0.22
C129 0.22
C131 0.1
R112 0.68 (1/2W)
C132 0.1
C133 0.1
R138 0
IC12 BA6417F-X
4 FIN
3 VCC
2 VM
1 OUT1
5 RIN
6 VREF
7 OUT2
8 GND
D13 DAP222-X
C160 470p
CN114
1 HOUSING_M+
2 HOUSING_M-
TO HOUSING MOTOR
+12V
Q14 2SC4081/QRS/-X
Q15 2SC4081/QRS/-X
R131 10k
R132 2.2k
R133 10k
R135 100k
R136 100k
C158 0.022
C159 0.022
R137 OPEN
D12 MA3110/L/-X
C156 1
C157 0.001
R134 4.7k
R139 0.68 (1/2W)
Pg 2 HOUSING_IN
Pg 2 HOUSING_OUT
Pg 2 MECHA_REF
TO MSD uCON
Pg 2 HOUSING_CURRENT

MDA/DC SCHEMATIC DIAGRAM 2/4

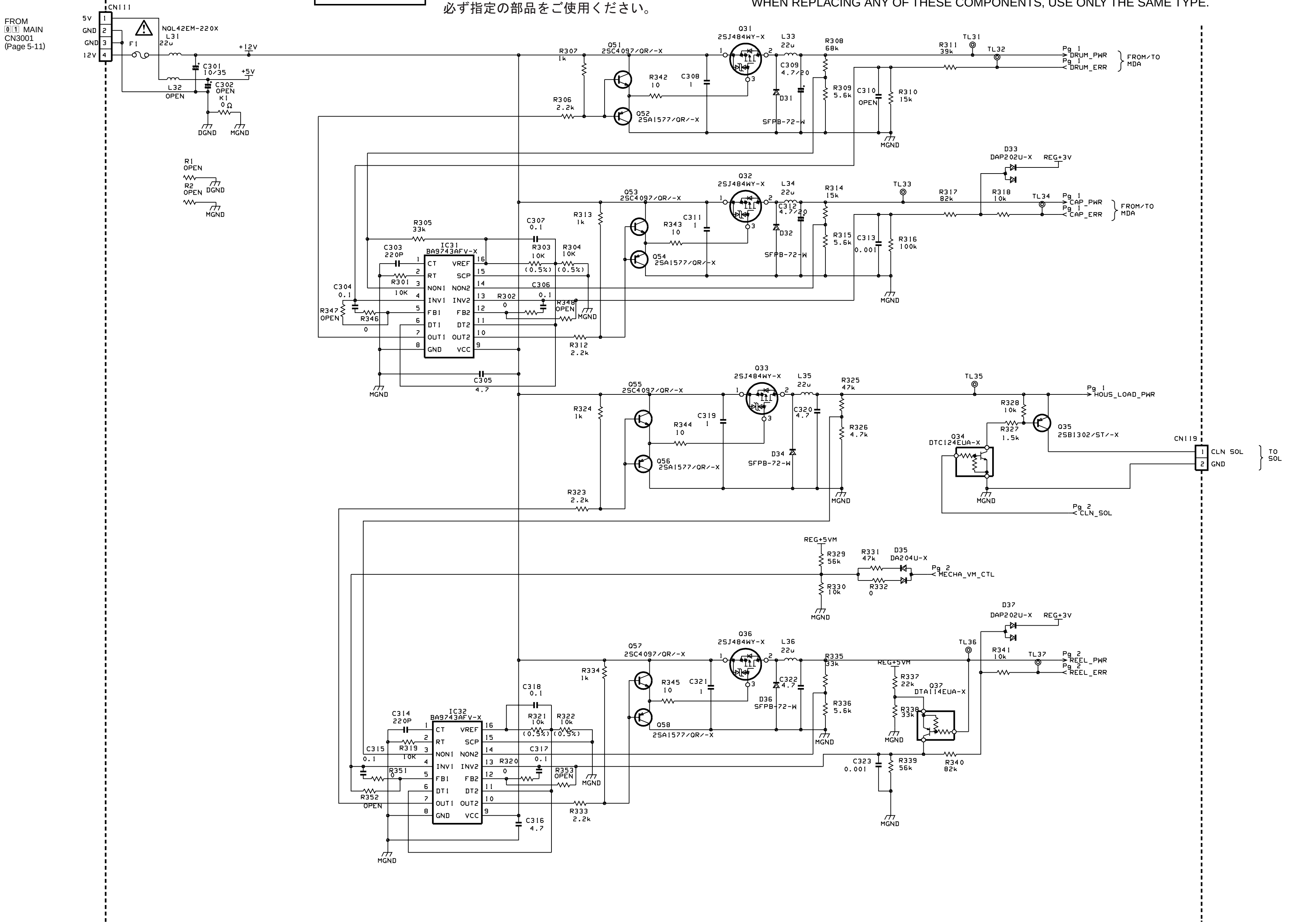

CN105
DRUM_FG
DRUM_PG
MGND
MDA_IN
MDA_CS
MDA_CLK
CAP_FG
CAP_¥BRK
HOUSING_IN
HOUSING_OUT
MECHA_REF
CAP_REF
DRUM_REF
REEL_FWD_CTL
REEL_BRK
REEL_REF
REEL_ECR
REEL_CURRENT
REEL_FG
CLN_SOL
MECHA_VM_CTL
HOUSING_CURRENT
NC
Pg 1
Pg 3
CAP_BRK
TO DV/CPU
CN105
(Page 5-18)
R227 1M
R228 1M
R229 1M
R230 1M
R226 1M
IC22.2
BA10358F-XE
R216 1k
R215 10k
R214 27k
C221 0.01
C218 0.01
R212 39k
C217 1
R211 10k
R213 1k
IC22.1
BA10358F-XE
C219 0.01
D21 OPEN
REG+5VM
L21 22u
C201 0.022
C202 10/16
REEL_PWR
from DC/DC
REEL_ERR
to DC/DC
R202 470k
R203 100k
R201 10k
IC21
BA6862FS-X
GND
OSD
VM
VS
MODE
EC
ECR
TL
PCI
PCV
BRK
FR
PS
VCC
AMPOU+
AMPIN-
RNF
A3
A2
A1
A3H
A2H
A1H
H1+
H1-
H2+
H2-
H3+
H3-
RCC
PCH
AMPIN+
C204 0.1
R204 120k
R205 15k
C205 0.015
C206 0.027
C203 0.022
C207 0.1
C208 OPEN
R206 150k
R207 2.7k
C209 1
C213 0.022
C212 0.022
C211 0.022
R208 10k
C210 0.1
Q21 2SB1302/ST/-X
Q22 2SB1302/ST/-X
Q23 2SB1302/ST/-X
R210 1 (1/4W)
R209 1 (1/4W)
C214 0.1
C215 0.1
C216 0.1
R217 120
D22 MA3020-X
R218 120
CN116
R_FG_VCC(5V)
R_FG_OUT1
R_FG_GND
R_FG_OUT2
R_HE_U+
R_HE_GND
R_HE_U-
R_HE_V-
R_HE_V+
R_HE_W-
R_HE_VCC(5V)
R_HE_W+
R_COIL_W
R_COIL_U
R_COIL_V
TO MECHA
CN116
(Page 5-27)
R221 470k
R222 10k
R219 10k
R220 100k
C220 1
IC23.1
BA10393F-XE
R223 10k
R225 56k
R224 10k
IC23.2
BA10393F-XE
REEL FG
MGND

MDA/DC SCHEMATIC DIAGRAM 3/4

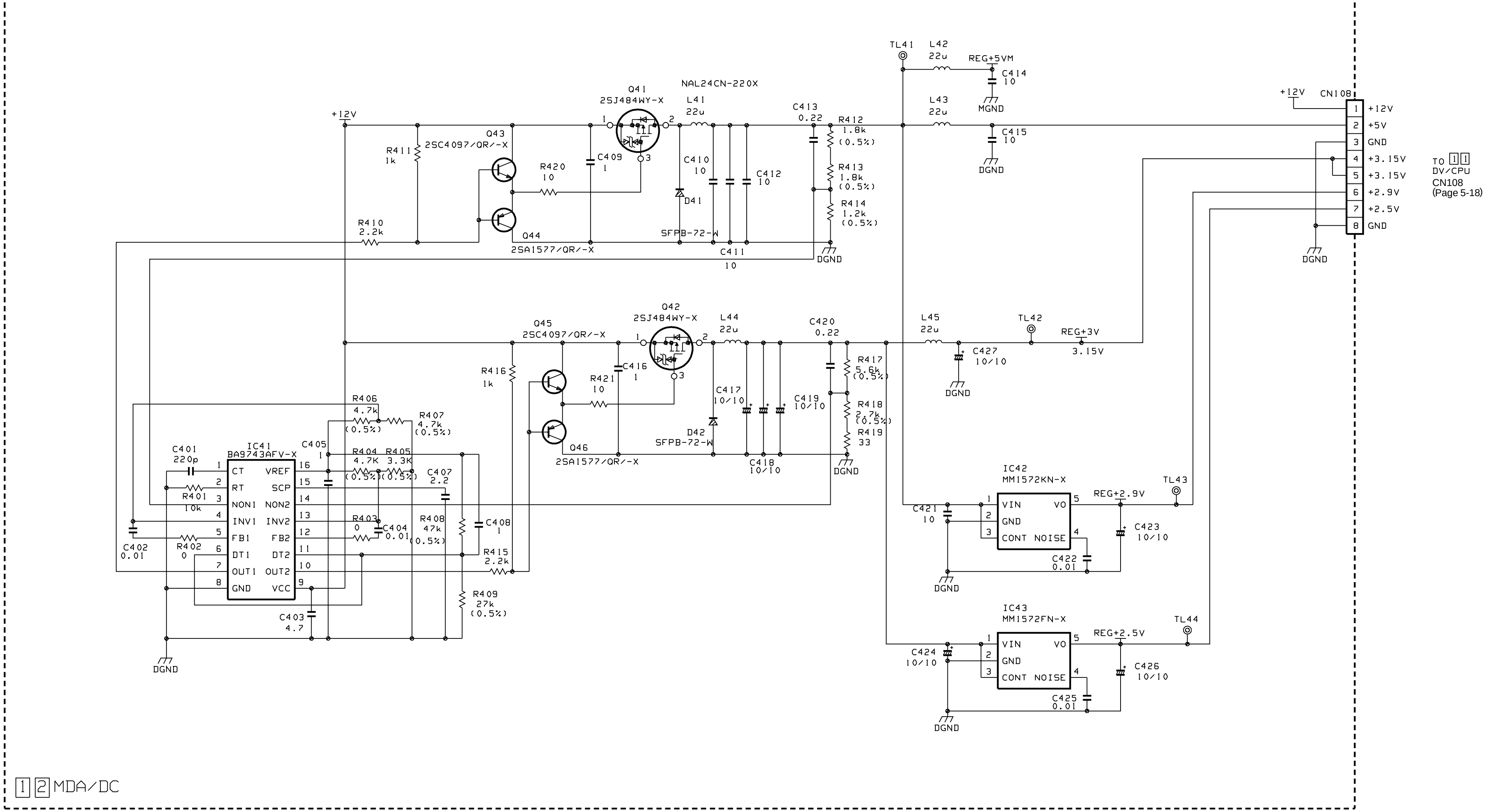
⚠ 警 告

⚠ 印の部品は安全上重要な部品です。
交換するときは、安全上および性能維持のため
必ず指定の部品をご使用ください。

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

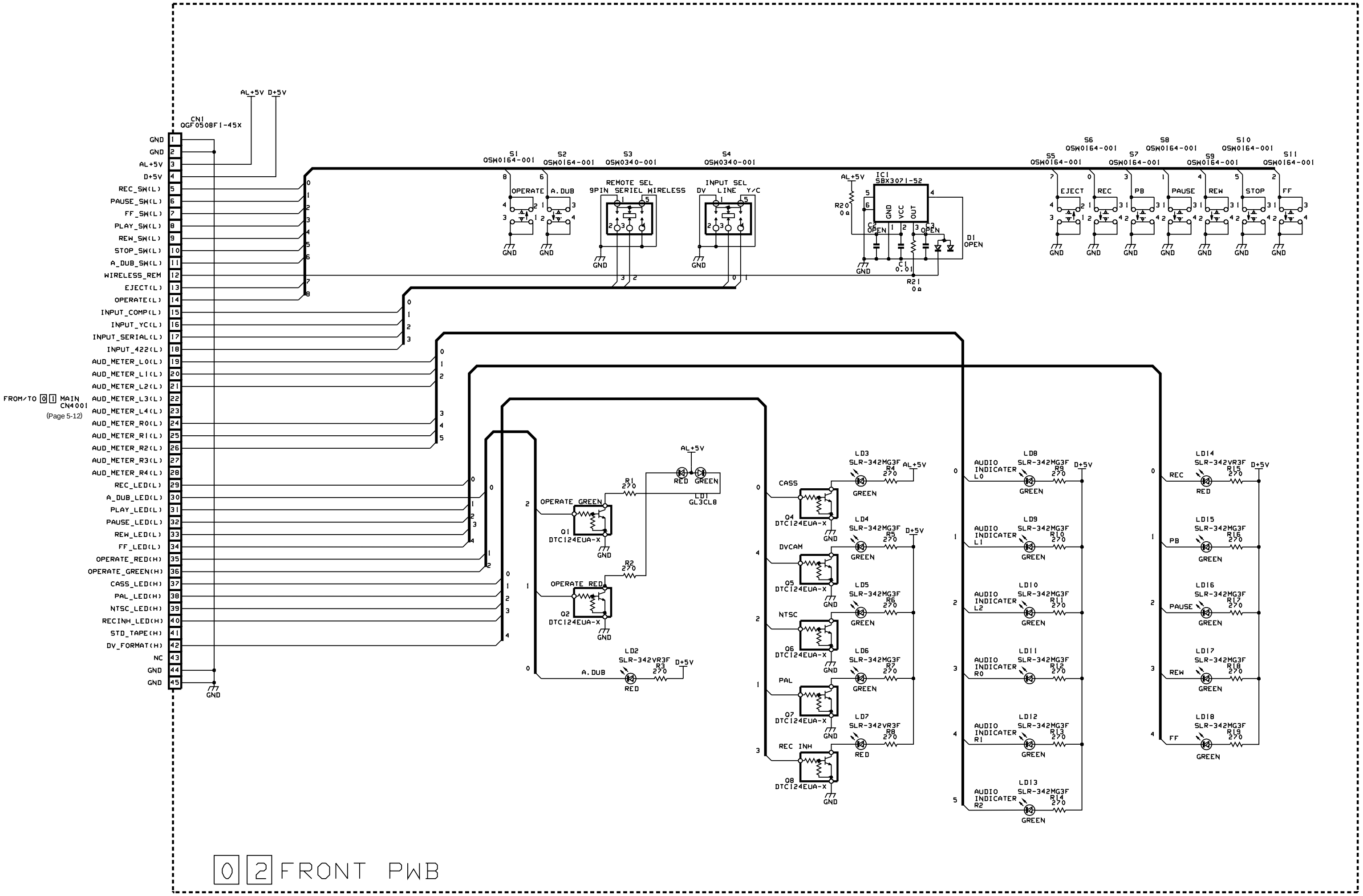

FROM
01 MAIN
CN3001
(Page 5-11)
CN111
5V
GND
GND
12V
NOL42EM-220X
L31
22u
F1
+12V
C301
10/35
+5V
C302
OPEN
K1
0Ω
L32
OPEN
DGND
MGND
R1
OPEN
R2
OPEN
R307
1k
Q51
2SC4097/QR/-X
Q31
2SJ484WY-X
L33
22u
R308
68k
R311
39k
TL31
TL32
Pg 1
DRUM_PWR
DRUM_ERR
FROM/TO
MDA
R342
10
C308
1
C309
4.7/20
R309
5.6k
C310
OPEN
R310
15k
D31
SFPB-72-W
R306
2.2k
Q52
2SA1577/QR/-X
D33
DAP202U-X
REG+3V
Q32
2SJ484WY-X
L34
22u
R314
15k
TL33
R317
82k
R318
10k
TL34
CAP_PWR
CAP_ERR
R313
1k
Q53
2SC4097/QR/-X
R343
10
C311
1
C312
4.7/20
D32
R315
5.6k
C313
0.001
R316
100k
Q54
2SA1577/QR/-X
R305
33k
C307
0.1
IC31
BA9743AFV-X
C303
220P
R303
10K
R304
10K
(0.5%)
R301
10K
C304
0.1
C306
0.1
R302
0
R348
OPEN
R347
OPEN
R346
0
R312
2.2k
C305
4.7
CT
RT
NON1
INV1
FB1
DT1
OUT1
GND
VREF
SCP
NON2
INV2
FB2
DT2
OUT2
VCC
Q33
2SJ484WY-X
L35
22u
R325
47k
TL35
HOUS_LOAD_PWR
Q55
2SC4097/QR/-X
R324
1k
R344
10
C319
1
C320
4.7
R326
4.7k
R328
10k
R327
1.5k
Q35
2SB1302/ST/-X
Q34
DTC124EUA-X
CN119
CLN SOL
GND
TO
SOL
D34
SFPB-72-W
Q56
2SA1577/QR/-X
R323
2.2k
Pg 2
CLN_SOL
REG+5VM
R329
56k
R331
47k
D35
DA204U-X
MECHA_VM_CTL
R330
10k
R332
0
D37
DAP202U-X
Q36
2SJ484WY-X
L36
22u
R335
33k
TL36
R341
10k
TL37
REEL_PWR
REEL_ERR
Q57
2SC4097/QR/-X
R334
1k
R345
10
C321
1
C322
4.7
D36
SFPB-72-W
R336
5.6k
R337
22k
Q37
DTA114EUA-X
R338
33k
C318
0.1
IC32
BA9743AFV-X
C314
220P
R321
10k
R322
10k
Q58
2SA1577/QR/-X
C315
0.1
R319
10K
C317
0.1
R320
0
R351
0
R353
OPEN
R352
OPEN
R333
2.2k
C316
4.7
C323
0.001
R339
56k
R340
82k

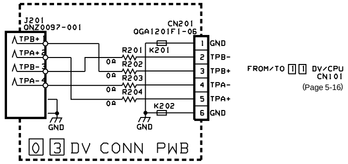
MDA/DC SCHEMATIC DIAGRAM 4/4

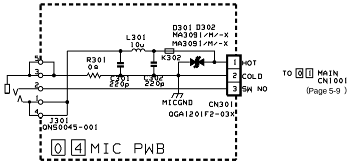


TL41
L42 22u
REG+5VM
C414 10
MGND
L43 22u
C415 10
DGND
Q41 2SJ484WY-X
NAL24CN-220X
L41 22u
C413 0.22
R412 1.8k (0.5%)
R413 1.8k (0.5%)
R414 1.2k (0.5%)
+12V
R411 1k
2SC4097/QR/-X
Q43
R420 10
C409 1
C410 10
C412 10
D41
SFPB-72-W
R410 2.2k
Q44
2SA1577/QR/-X
C411 10
DGND
+12V
CN108
1 +12V
2 +5V
3 GND
4 +3.15V
5 +3.15V
6 +2.9V
7 +2.5V
8 GND
DGND
TO 1 1 DV/CPU
CN108
(Page 5-18)
Q42 2SJ484WY-X
Q45 2SC4097/QR/-X
L44 22u
C420 0.22
L45 22u
TL42
REG+3V
3.15V
C427 10/10
DGND
R416 1k
R421 10
C416 1
R417 5.6k (0.5%)
C417 10/10
C419 10/10
R418 2.7k (0.5%)
R419 33
D42 SFPB-72-W
Q46
2SA1577/QR/-X
C418 10/10
DGND
R406 4.7k (0.5%)
R407 4.7k (0.5%)
C401 220p
IC41 BA9743AFV-X
C405 1
R404 4.7K (0.5%)
R405 3.3K (0.5%)
C407 2.2
R401 10k
R403 0
C404 0.01
R408 47k (0.5%)
C408 1
C402 0.01
R402 0
R415 2.2k
R409 27k (0.5%)
C403 4.7
DGND
1 CT
2 RT
3 NON1
4 INV1
5 FB1
6 DT1
7 OUT1
8 GND
16 VREF
15 SCP
14 NON2
13 INV2
12 FB2
11 DT2
10 OUT2
9 VCC
IC42 MM1572KN-X
REG+2.9V
TL43
C421 10
1 VIN
2 GND
3 CONT
VO 5
NOISE 4
C423 10/10
C422 0.01
DGND
IC43 MM1572FN-X
REG+2.5V
TL44
C424 10/10
C426 10/10
C425 0.01
DGND
1 2 MDA/DC

5.13 FDM (FRONT, DV CONN & MIC) SCHEMATIC DIAGRAMS


FROM/TO 0 1 MAIN CN4001
(Page 5-12)
AL+5V D+5V
CN1
QGF0508F1-45X
GND 1
GND 2
AL+5V 3
D+5V 4
REC_SW(L) 5
PAUSE_SW(L) 6
FF_SW(L) 7
PLAY_SW(L) 8
REW_SW(L) 9
STOP_SW(L) 10
A_DUB_SW(L) 11
WIRELESS_REM 12
EJECT(L) 13
OPERATE(L) 14
INPUT_COMP(L) 15
INPUT_YC(L) 16
INPUT_SERIAL(L) 17
INPUT_422(L) 18
AUD_METER_L0(L) 19
AUD_METER_L1(L) 20
AUD_METER_L2(L) 21
AUD_METER_L3(L) 22
AUD_METER_L4(L) 23
AUD_METER_R0(L) 24
AUD_METER_R1(L) 25
AUD_METER_R2(L) 26
AUD_METER_R3(L) 27
AUD_METER_R4(L) 28
REC_LED(L) 29
A_DUB_LED(L) 30
PLAY_LED(L) 31
PAUSE_LED(L) 32
REW_LED(L) 33
FF_LED(L) 34
OPERATE_RED(H) 35
OPERATE_GREEN(H) 36
CASS_LED(H) 37
PAL_LED(H) 38
NTSC_LED(H) 39
RECINH_LED(H) 40
STD_TAPE(H) 41
DV_FORMAT(H) 42
NC 43
GND 44
GND 45
GND
S1 QSW0164-001
S2 QSW0164-001
S3 QSW0340-001
S4 QSW0340-001
OPERATE
A.DUB
REMOTE SEL
9PIN SERIEL WIRELESS
INPUT SEL
DV LINE Y/C
GND
AL+5V
IC1 SBX3071-52
GND VCC OUT
R20 0Ω
C2 OPEN
C3 OPEN
C1 0.01
R21 0Ω
D1 OPEN
S5 QSW0164-001
S6 QSW0164-001
S7 QSW0164-001
S8 QSW0164-001
S9 QSW0164-001
S10 QSW0164-001
S11 QSW0164-001
EJECT
REC
PB
PAUSE
REW
STOP
FF
OPERATE GREEN
Q1 DTC124EUA-X
OPERATE RED
Q2 DTC124EUA-X
R1 270
R2 270
AL+5V
RED GREEN
LD1 GL3CL8
A.DUB
LD2 SLR-342VR3F
R3 270
D+5V
RED
CASS
Q4 DTC124EUA-X
LD3 SLR-342MG3F
R4 270
AL+5V
GREEN
DVCAM
Q5 DTC124EUA-X
LD4 SLR-342MG3F
R5 270
D+5V
GREEN
NTSC
Q6 DTC124EUA-X
LD5 SLR-342MG3F
R6 270
GREEN
PAL
Q7 DTC124EUA-X
LD6 SLR-342MG3F
R7 270
GREEN
REC INH
Q8 DTC124EUA-X
LD7 SLR-342VR3F
R8 270
RED
AUDIO INDICATER L0
LD8 SLR-342MG3F
R9 270
D+5V
GREEN
AUDIO INDICATER L1
LD9 SLR-342MG3F
R10 270
GREEN
AUDIO INDICATER L2
LD10 SLR-342MG3F
R11 270
GREEN
AUDIO INDICATER R0
LD11 SLR-342MG3F
R12 270
GREEN
AUDIO INDICATER R1
LD12 SLR-342MG3F
R13 270
GREEN
AUDIO INDICATER R2
LD13 SLR-342MG3F
R14 270
GREEN
REC
LD14 SLR-342VR3F
R15 270
D+5V
RED
PB
LD15 SLR-342MG3F
R16 270
GREEN
PAUSE
LD16 SLR-342MG3F
R17 270
GREEN
REW
LD17 SLR-342MG3F
R18 270
GREEN
FF
LD18 SLR-342MG3F
R19 270
GREEN
0 2 FRONT PWB

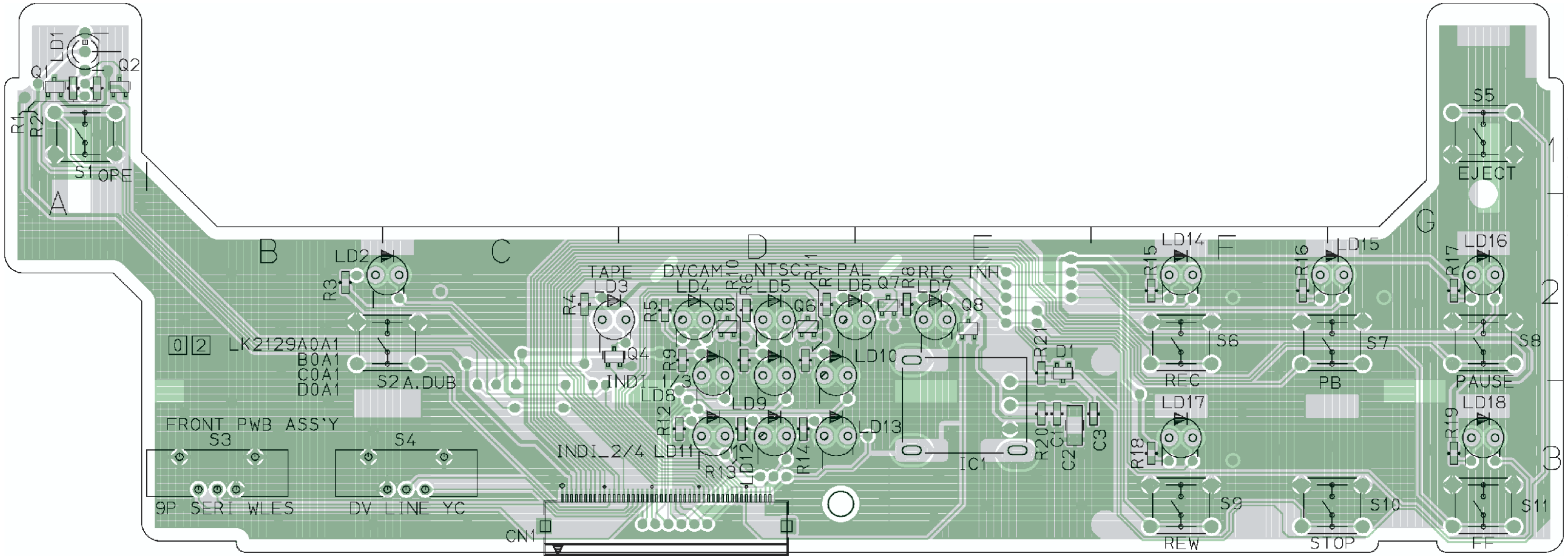

J201
QNZ0097-001
TPB+ 1
TPA+ 2
TPB- 3
TPA- 4
R201 0Ω
R202 0Ω
R203 0Ω
R204 0Ω
K201
K202
CN201
QGA1201F1-06
1 GND
2 TPB-
3 TPB+
4 TPA-
5 TPA+
6 GND
GND
FROM/TO 1 1 DV/CPU CN101
(Page 5-16)
0 3 DV CONN PWB


J301
QNS0045-001
R301 0Ω
C301 220p
C302 220p
L301 10u
K302
D301 D302
MA3091/M/-X
MA3091/M/-X
MICGND
CN301
QGA1201F2-03X
1 HOT
2 COLD
3 SW NO
TO 0 1 MAIN CN1001
(Page 5-9)
0 4 MIC PWB

5.14 FDM (FRONT, DV CONN & MIC) CIRCUIT BOARDS

– FRONT CIRCUIT BOARD –

– SIDE A –


LD1
Q1
Q2
R1
R2
S1 OPE
A
B
C
D
E
F
G
1
2
3
LD2
R3
0 2 LK2129A0A1
B0A1
C0A1
D0A1
S2 A.DUB
FRONT PWB ASS'Y
S3
S4
9P SERI WLES
DV LINE YC
TAPE
LD3
R4
Q4
INDI_1/3
DVCAM
LD4
R5
Q5
R6
R10
LD8
R9
R12
INDI_2/4
LD11
R13
LD12
NTSC
LD5
Q6
LD9
R14
R11
PAL
R7
LD6
Q7
LD10
LD13
REC
R8
LD7
Q8
INH
IC1
CN1
R21
D1
R20
C1
C2
C3
LD14
R15
S6
REC
LD17
R18
S9
REW
R16
LD15
S7
PB
S10
STOP
S5
EJECT
LD16
R17
S8
PAUSE
LD18
R19
S11
FF

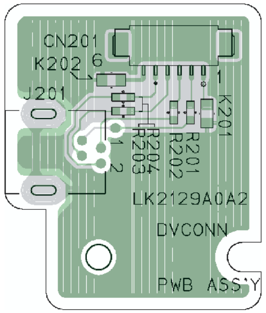
● ADDRESS TABLE OF BOARD PARTS
Each address may have an address error by one interval.

A-1C
Side
Y axis
X axis

IC1	A-3E
Q1	A-1A
Q2	A-1A
Q4	A-2C
Q5	A-2D
Q6	A-2D
Q7	A-2E
Q8	A-2E
D1	A-3E
R1	A-1A
R2	A-1A
R3	A-2B
R4	A-2C
R5	A-2D
R6	A-2D
R7	A-2D
R8	A-2E
R9	A-2D
R10	A-2D
R11	A-2D
R12	A-3D
R13	A-3D
R14	A-3D
R15	A-2F
R16	A-2F
R17	A-2G
R18	A-3F
R19	A-3G
R20	A-3E
R21	A-3E
C1	A-3E
C2	A-3E
C3	A-3F
LD1	A-1A
LD2	A-2B
LD3	A-2C
LD4	A-2D
LD5	A-2D
LD6	A-2D
LD7	A-2D
LD8	A-3D
LD9	A-3D
LD10	A-3D
LD11	A-3D
LD12	A-3D
LD13	A-3D
LD14	A-2F
LD15	A-2F
LD16	A-2G
LD17	A-3F
LD18	A-3G
CN1	A-3C
S1	A-1A
S2	A-2B
S3	A-3B
S4	A-3B
S5	A-1G
S6	A-2F
S7	A-2F
S8	A-2G
S9	A-3F
S10	A-3F
S11	A-3G

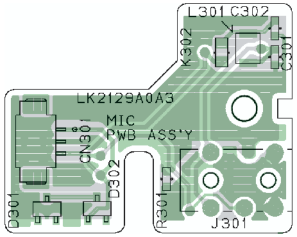
– DV CONN CIRCUIT BOARD –

– SIDE A –

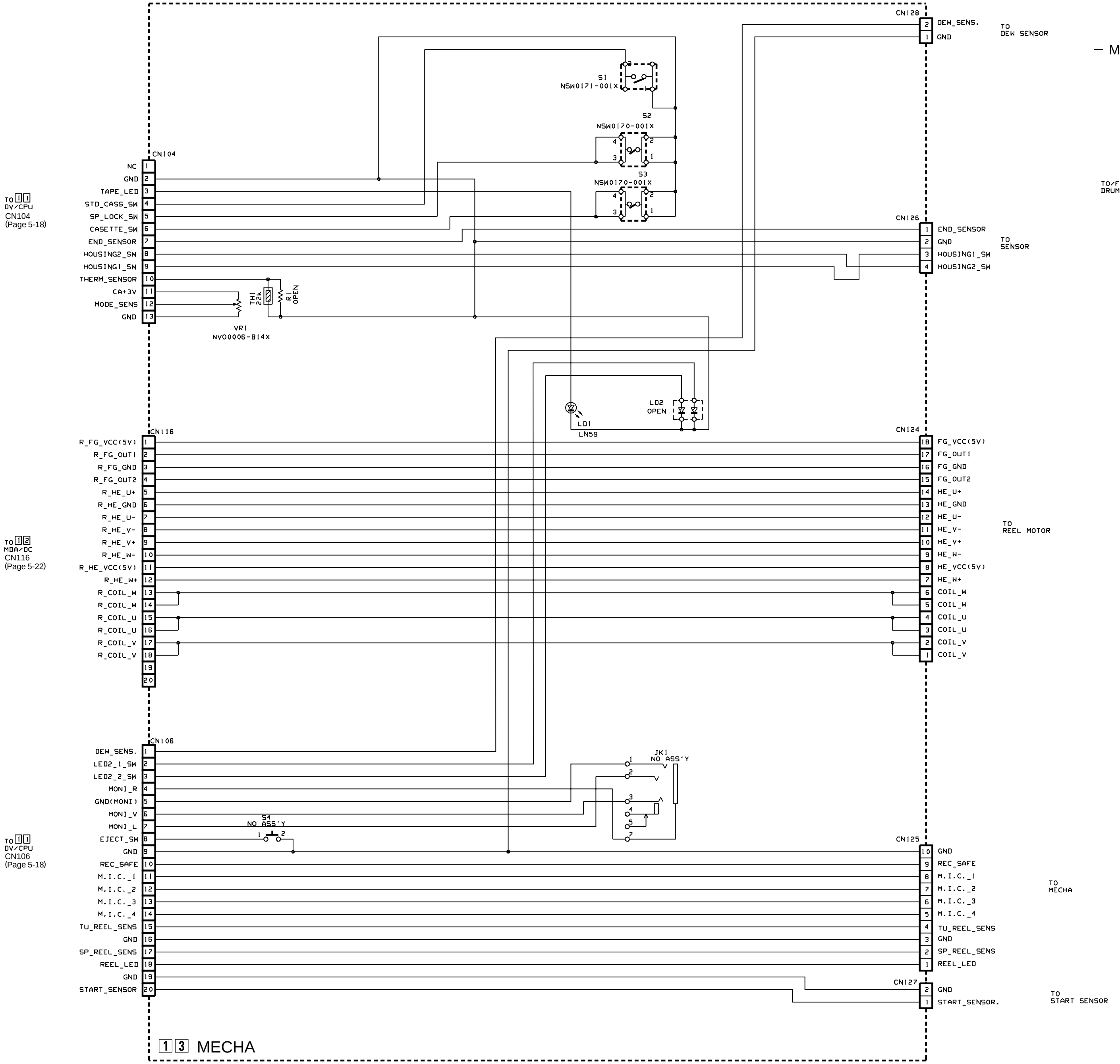

CN201
K202
6
1
J201
K201
R201
R202
R203
R204
1
2
LK2129A0A2
DVCONN
PWB ASS'Y

– MIC CIRCUIT BOARD –

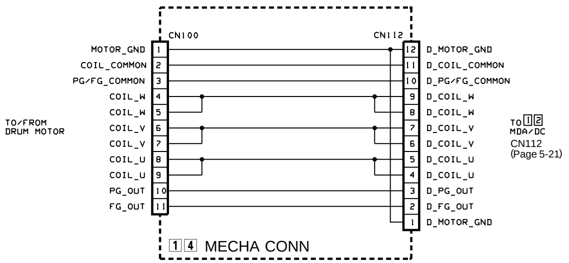
– SIDE A –


L301
C302
K302
C301
LK2129A0A3
MIC
PWB ASS'Y
CN301
D302
D301
R301
J301

5.15 MECHA & MECHA CONN SCHEMATIC DIAGRAMS


TO 1 1 DV/CPU CN104 (Page 5-18)
CN104
NC 1
GND 2
TAPE_LED 3
STD_CASS_SW 4
SP_LOCK_SW 5
CASETTE_SW 6
END_SENSOR 7
HOUSING2_SW 8
HOUSING1_SW 9
THERM_SENSOR 10
CA+3V 11
MODE_SENS 12
GND 13
VR1 NVQ0006-B14X
TH1 22k
R1 OPEN
S1 NSW0171-001X
S2 NSW0170-001X
S3 NSW0170-001X
CN128
2 DEW_SENS.
1 GND
TO DEW SENSOR
CN126
1 END_SENSOR
2 GND
3 HOUSING1_SW
4 HOUSING2_SW
TO SENSOR
LD1 LN59
LD2 OPEN
TO 1 2 MDA/DC CN116 (Page 5-22)
CN116
R_FG_VCC(5V) 1
R_FG_OUT1 2
R_FG_GND 3
R_FG_OUT2 4
R_HE_U+ 5
R_HE_GND 6
R_HE_U- 7
R_HE_V- 8
R_HE_V+ 9
R_HE_W- 10
R_HE_VCC(5V) 11
R_HE_W+ 12
R_COIL_W 13
R_COIL_W 14
R_COIL_U 15
R_COIL_U 16
R_COIL_V 17
R_COIL_V 18
19
20
CN124
18 FG_VCC(5V)
17 FG_OUT1
16 FG_GND
15 FG_OUT2
14 HE_U+
13 HE_GND
12 HE_U-
11 HE_V-
10 HE_V+
9 HE_W-
8 HE_VCC(5V)
7 HE_W+
6 COIL_W
5 COIL_W
4 COIL_U
3 COIL_U
2 COIL_V
1 COIL_V
TO REEL MOTOR
TO 1 1 DV/CPU CN106 (Page 5-18)
CN106
DEW_SENS. 1
LED2_1_SW 2
LED2_2_SW 3
MONI_R 4
GND(MONI) 5
MONI_V 6
MONI_L 7
EJECT_SW 8
GND 9
REC_SAFE 10
M.I.C._1 11
M.I.C._2 12
M.I.C._3 13
M.I.C._4 14
TU_REEL_SENS 15
GND 16
SP_REEL_SENS 17
REEL_LED 18
GND 19
START_SENSOR 20
JK1 NO ASS'Y
S4 NO ASS'Y
CN125
10 GND
9 REC_SAFE
8 M.I.C._1
7 M.I.C._2
6 M.I.C._3
5 M.I.C._4
4 TU_REEL_SENS
3 GND
2 SP_REEL_SENS
1 REEL_LED
TO MECHA
CN127
2 GND
1 START_SENSOR.
TO START SENSOR
1 3 MECHA

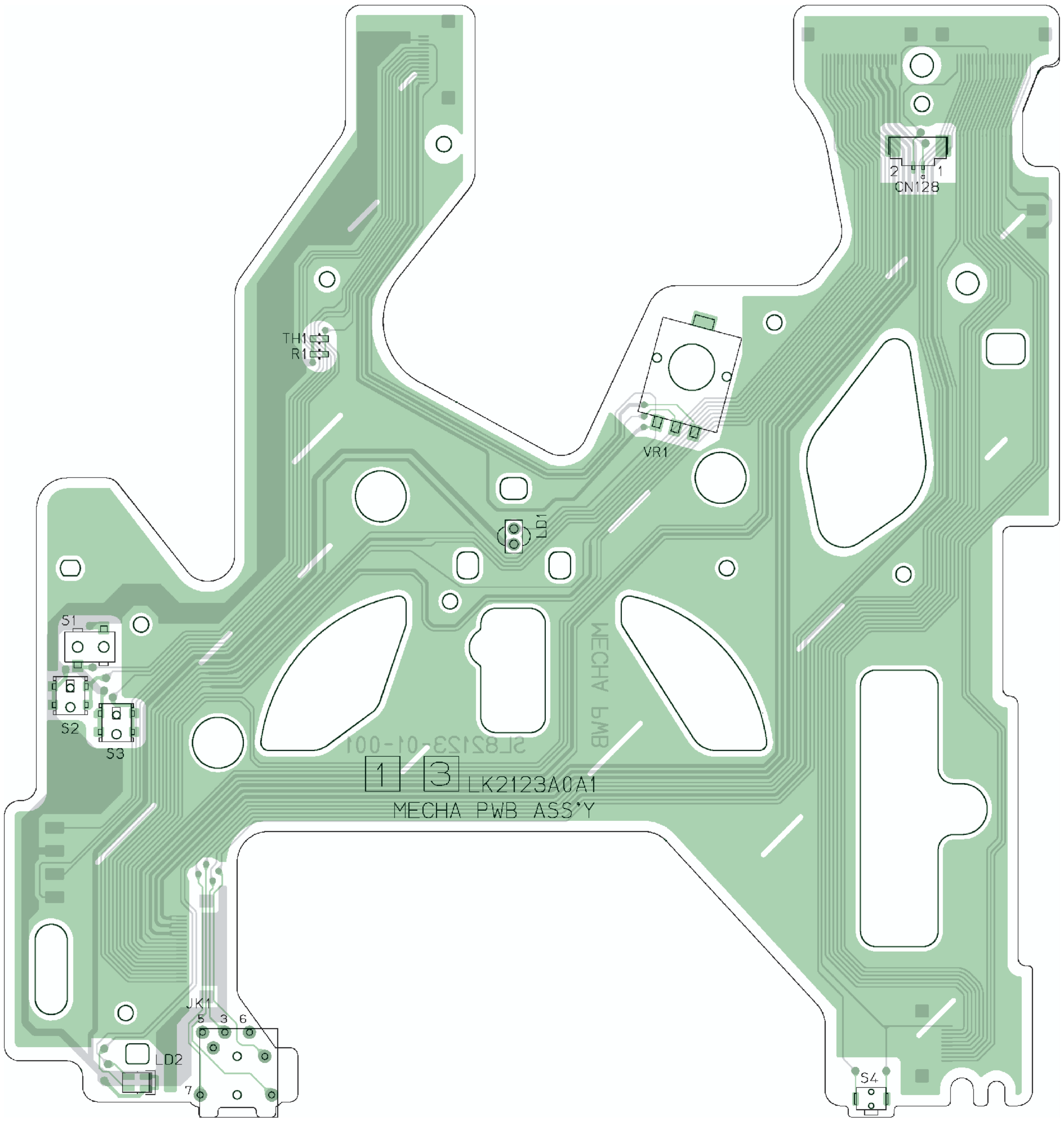
— MECHA CONN —


TO/FROM DRUM MOTOR
CN100
MOTOR_GND 1
COIL_COMMON 2
PG/FG_COMMON 3
COIL_W 4
COIL_W 5
COIL_V 6
COIL_V 7
COIL_U 8
COIL_U 9
PG_OUT 10
FG_OUT 11
CN112
12 D_MOTOR_GND
11 D_COIL_COMMON
10 D_PG/FG_COMMON
9 D_COIL_W
8 D_COIL_W
7 D_COIL_V
6 D_COIL_V
5 D_COIL_U
4 D_COIL_U
3 D_PG_OUT
2 D_FG_OUT
1 D_MOTOR_GND
TO 1 2 MDA/DC CN112 (Page 5-21)
1 4 MECHA CONN

5.16 MECHA & MECHA CONN CIRCUIT BOARDS

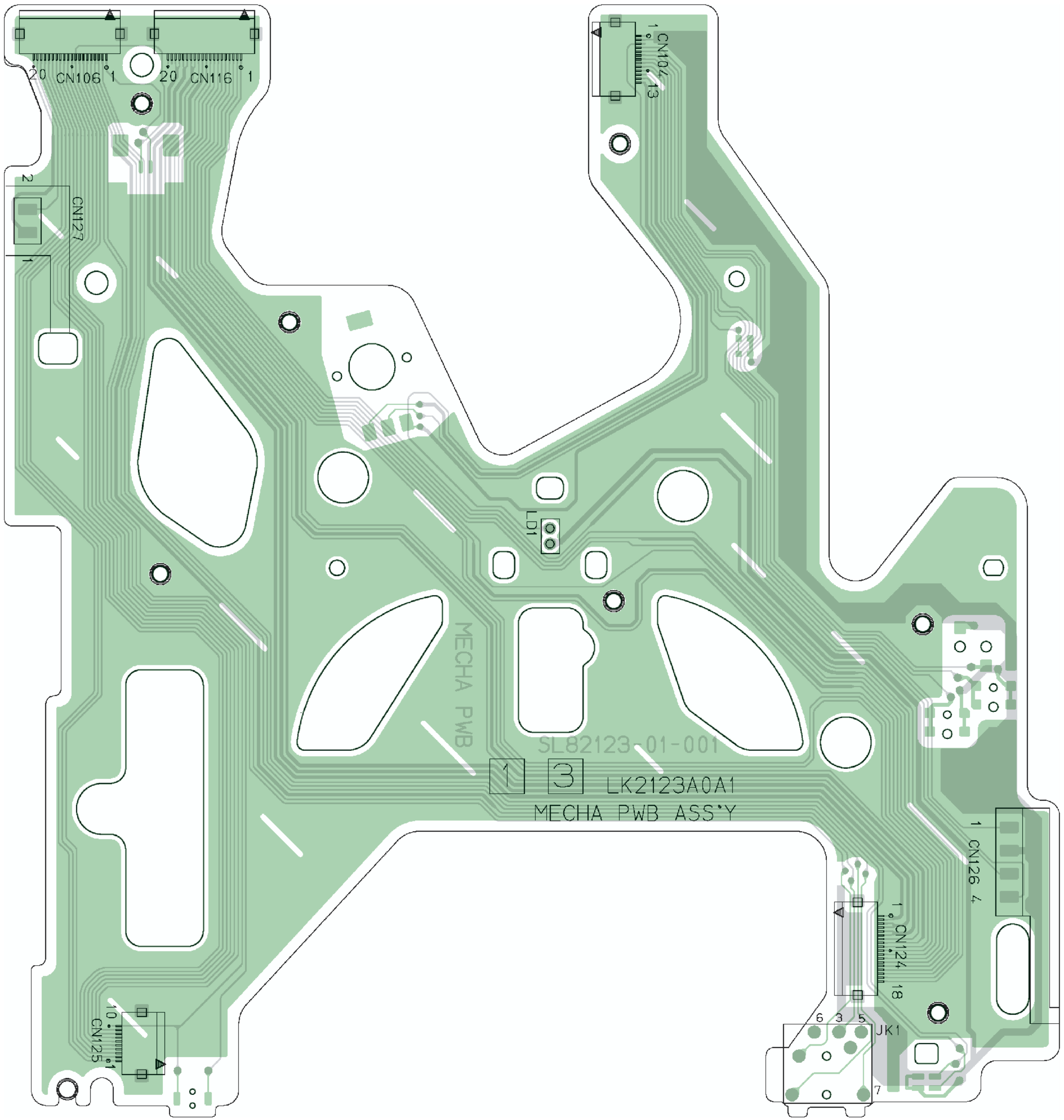
– MECHA CIRCUIT BOARD –

– SIDE A –

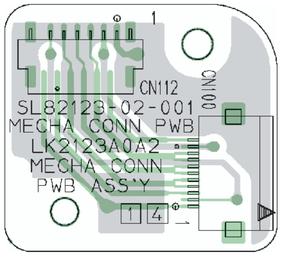

CN128
2
1
TH1
R1
VR1
LD1
MECHA PWB
SL82123-01-001
1
3
LK2123A0A1
MECHA PWB ASS'Y
S1
S2
S3
JK1
5
3
6
7
LD2
S4

– MECHA CONN CIRCUIT BOARD –

– SIDE B –


20
CN106
1
20
CN116
1
CN104
1
13
2
CN127
1
LD1
MECHA PWB
SL82123-01-001
1
3
LK2123A0A1
MECHA PWB ASS'Y
1
CN126
4
1
CN124
18
6
3
5
JK1
7
10
CN125
1

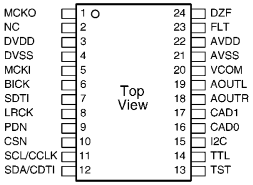
– SIDE A –


1
CN112
CN100
SL82123-02-001
MECHA CONN PWB
LK2123A0A2
MECHA CONN
PWB ASS'Y
1
4
1

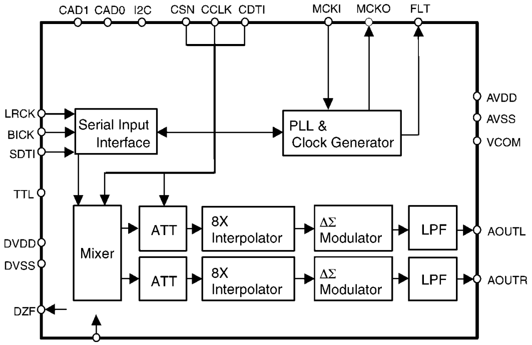
5.17 IC BLOCK DIAGRAMS

■ AK4363VF-X [ASAHI KASEI]
(Stereo CMOS D/A Converter and Phase Locked Loop)

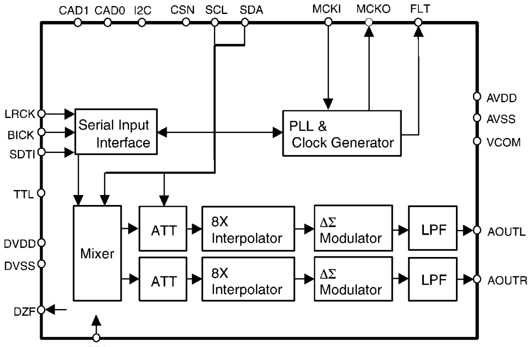
Pin Layout


MCKO 1
NC 2
DVDD 3
DVSS 4
MCKI 5
BICK 6
SDTI 7
LRCK 8
PDN 9
CSN 10
SCL/CCLK 11
SDA/CDTI 12
Top View
24 DZF
23 FLT
22 AVDD
21 AVSS
20 VCOM
19 AOUTL
18 AOUTR
17 CAD1
16 CAD0
15 I2C
14 TTL
13 TST

Block Diagram


CAD1 CAD0 I2C CSN CCLK CDTI MCKI MCKO FLT
LRCK
BICK
SDTI
Serial Input Interface
PLL & Clock Generator
AVDD
AVSS
VCOM
TTL
DVDD
DVSS
Mixer
ATT
8X Interpolator
ΔΣ Modulator
LPF
AOUTL
AOUTR
DZF
PDN

3-wire Serial Control Mode (I2C = "L")


CAD1 CAD0 I2C CSN SCL SDA MCKI MCKO FLT
LRCK
BICK
SDTI
Serial Input Interface
PLL & Clock Generator
AVDD
AVSS
VCOM
TTL
DVDD
DVSS
Mixer
ATT
8X Interpolator
ΔΣ Modulator
LPF
AOUTL
AOUTR
DZF
PDN

I^2C Bus Control Mode (I2C = "H")

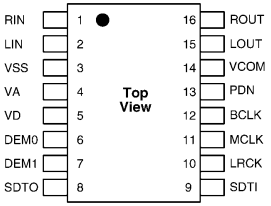
Pin/Function

No.	Pin Name	I/O	Description
1	MCKO	O	Master Clock Output Pin EXT = "0" : System clock is output from PLL circuit (PLL mode), EXT = "1" : Same frequency as MCKI is output (External mode)
2	NC	-	No Connect Nothing should be connected externally to this pin.
3	DVDD	-	Digital Power Supply Pin, +2.7– +5.5V
4	DVSS	-	Digital Ground Pin, 0V
5	MCKI	I	System Clock Input Pin EXT = "0" : 27MHz (PLL mode), EXT = "1" : Other frequency (External mode)
6	BICK	I	Serial Data Clock Pin
7	SDTI	I	Serial Data Input Pin
8	LRCK	I	Serial Input Channel Clock Pin
9	PDN	I	Power-Down Pin When "L", the circuit is in power-down mode. The AK4363 should always be reset upon power-up.
10	CSN	I	Chip Select Pin at 3-wire Serial control mode This pin should be connected to DVDD at I^2C Bus control mode.
11	SCL	I	Control Clock Pin at I^2C bus control mode
	CCLK	I	Control Clock Pin at 3-wire serial control mode
12	SDA	I/O	Control Data Input/Output Pin at I^2C Bus control mode
	CDTI	I	Control Data Input Pin at 3-wire serial control mode
13	TST	I	Test pin This pin should be connected to DVSS.
14	TTL	I	Digital Input Level Select Pin "L" : CMOS, "H" : TTL
15	I2C	I	Control Mode Select Pin "L" : 3-wire Serial, "H" : I^2C Bus
16	CAD0	I	Chip Address Select 0 Pin
17	CAD1	I	Chip Address Select 1 Pin
18	AOUTR	O	Rch Analog Output Pin
19	AOUTL	O	Lch Analog Output Pin
20	VCOM	O	Common Voltage Output Pin, AVDD/2 Used for analog common voltage. Large external capacitor is used to reduce power supply noise.
21	AVSS	-	Analog Ground Pin
22	AVDD	-	Analog Power Supply Pin
23	FLT	O	Output Pin for Loop Filter of PLL Circuit This pin should be connected to AVSS with one resister and one capacitor in series. (See"SYSTEM DESIGN".)
24	DZF	O	Zero Input Detect Pin When SDTI follows a total 8192 LRCK cycles with "0" input data or RSTN = "0", this pin goes to "H".

Note: No input pins should be left floating.

■ AK4552VT-X [ASAHI KASEI]
(Degital Audio A/D & D/A Converter)

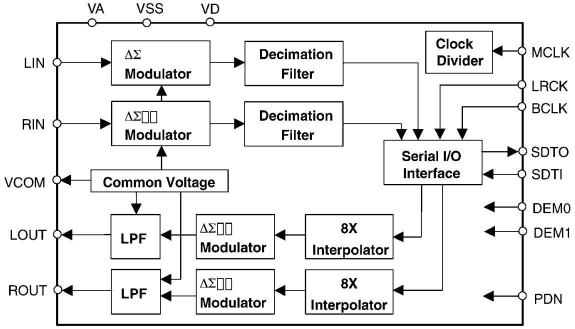
Pin Layout


RIN 1
LIN 2
VSS 3
VA 4
VD 5
DEM0 6
DEM1 7
SDTO 8
Top View
16 ROUT
15 LOUT
14 VCOM
13 PDN
12 BCLK
11 MCLK
10 LRCK
9 SDTI

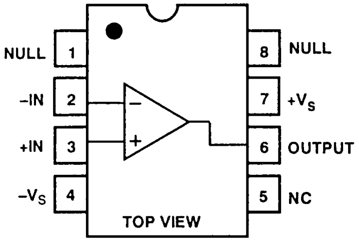
Pin/Function

No.	Pin Name	I/O	Function
1	RIN	I	Rch Analog Input Pin
2	LIN	I	Lch Analog Input Pin
3	VSS	-	Ground Pin
4	VA	-	Analog Power Supply Pin
5	VD	-	Digital Power Supply Pin
6	DEM0	I	De-emphasis Control Pin
7	DEM1	I	De-emphasis Control Pin
8	SDTO	O	Audio Serial Data Output Pin
9	SDTI	I	Audio Serial Data Input Pin
10	LRCK	I	Input/Output Channel Clock Pin
11	MCLK	I	Master Clock Input Pin
12	BCLK	I	Audio Serial Data Clock Pin
13	PDN	I	Power-Down & Reset Mode Pin "L": Power-down and Reset, "H": Normal operation
14	VCOM	O	Common Voltage Output Pin, 0.45 x VA
15	LOUT	O	Lch Analog Output Pin
16	ROUT	O	Rch Analog Output Pin

Block Diagram

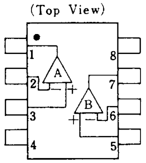

VA VSS VD
LIN
RIN
VCOM
LOUT
ROUT
ΔΣ Modulator
Decimation Filter
Clock Divider
MCLK
LRCK
BCLK
SDTO
SDTI
DEM0
DEM1
PDN
Serial I/O Interface
Common Voltage
LPF
ΔΣ Modulator
8X Interpolator

■ AD817AR-X [ANALOG DEVICES]
(Hi-Speed Low Power Op.Amp)


NULL 1
–IN 2
+IN 3
–VS 4
8 NULL
7 +VS
6 OUTPUT
5 NC
TOP VIEW

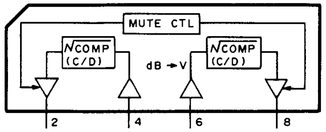
NC = NOT CONNECTED

■ BA10393F-XE [ROHM]
(Dual Comparator)

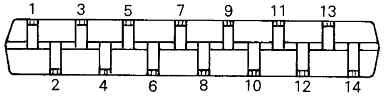

(Top View)
1
2
3
4
8
7
6
5
A
B

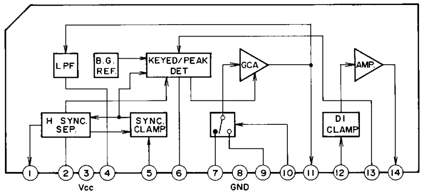
Pin
1. A OUTPUT
2. A−INPUT
3. A+INPUT
4. V⁻
5. B+INPUT
6. B−INPUT
7. B OUTPUT
8. V⁺

■ BA6138F-X [ROHM]
(1/2 square-law compression amplifiers)

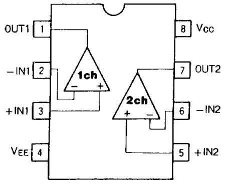

MUTE CTL
√COMP (C/D)
dB → V
√COMP (C/D)
2
4
6
8

■ AN3916-/LF/ [MATSUSHITA]
(Video AGC)

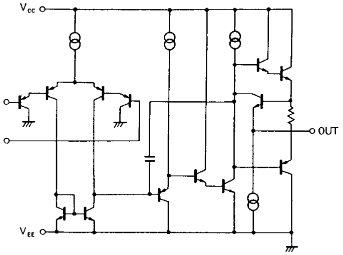

1
3
5
7
9
11
13
2
4
6
8
10
12
14


LPF
B.G REF.
KEYED/PEAK DET
GCA
AMP
H SYNC. SEP.
SYNC. CLAMP
DI CLAMP
Vcc
GND

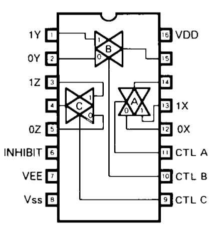
■ BA10358F-XE [ROHM]
(Dual Ground Sense Op.Amp)


OUT1
–IN1
+IN1
VEE
Vcc
OUT2
–IN2
+IN2
1ch
2ch

(Top View)


Vcc
–IN
+IN
OUT
VEE

■ CD4053BPW-X [RCA]
(Triple 2 Channel Analog Multiplexers/Demultiplexers)

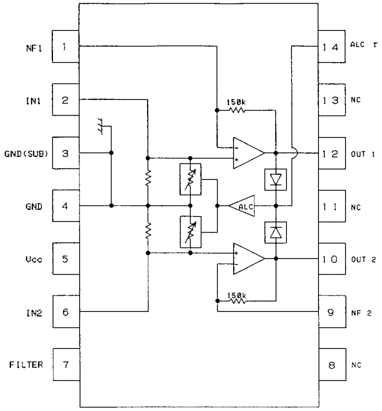

1Y
0Y
1Z
0Z
INHIBIT
VEE
Vss
VDD
1X
0X
CTL A
CTL B
CTL C
A
B
C

(TOP VIEW)

TRUTH TABLE

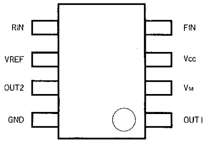
CONTROL INPUTS				"ON" CHANNEL
INHIBIT	C	B	A	4053BP 4053BF
L	L	L	L	0X, 0Y, 0Z
L	L	L	H	1X, 0Y,0Z
L	L	H	L	0X, 1Y, 0Z
L	L	H	H	1X, 1Y, 0Z
L	H	L	L	0X, 0Y, 1Z
L	H	L	H	1X, 0Y, 1Z
L	H	H	L	0X, 1Y, 1Z
L	H	H	H	1X, 1Y, 1Z
H	*	*	*	NOTE
* Don't Care,				

■ BA3314F-X [ROHM]
(Dual Pre-Amp. for Audio Signal)

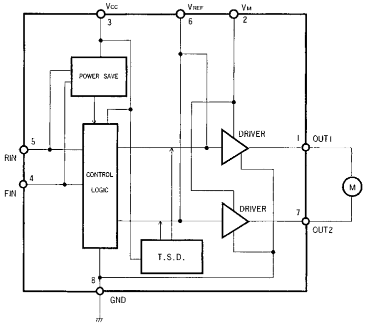

NF1
IN1
GND(SUB)
GND
Vcc
IN2
FILTER
ALC T
NC
OUT 1
NC
OUT 2
NF 2
NC
150k
150k
ALC

(Top View)

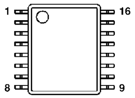
■ BA6417F-X [ROHM]
(Reversible Motor Driver)


RIN
VREF
OUT2
GND
FIN
Vcc
VM
OUT1

Top view

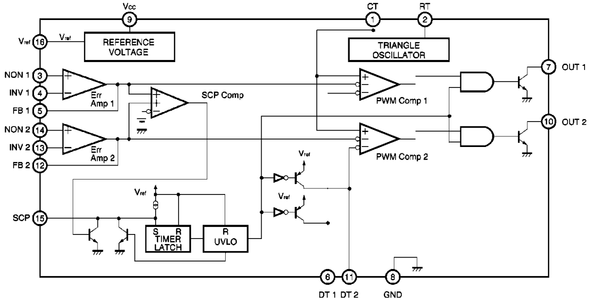

Vcc
VREF
VM
POWER SAVE
CONTROL LOGIC
DRIVER
DRIVER
T.S.D.
RIN
FIN
OUT1
OUT2
M
GND

■ BA9743AFV-X [ROHM]
(2-channel Switching Regulator Controller)

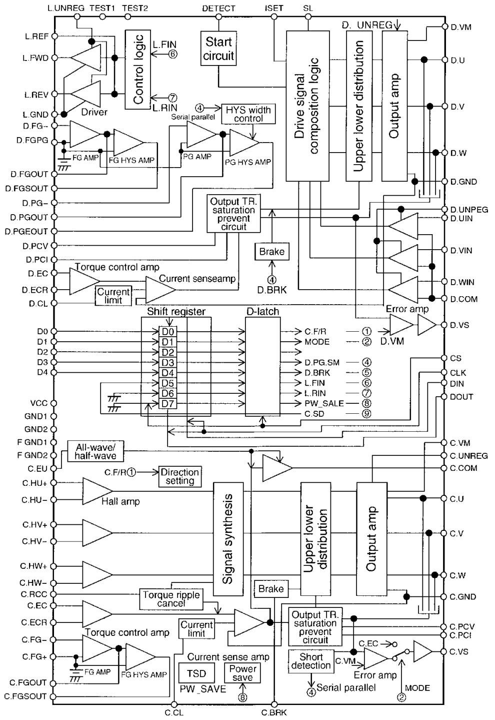


(Top View)

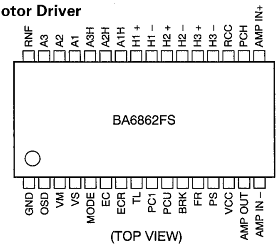
Block Diagram


Vcc
CT
RT
Vref
REFERENCE VOLTAGE
TRIANGLE OSCILLATOR
NON 1
INV 1
FB 1
NON 2
INV 2
FB 2
SCP
Err Amp 1
Err Amp 2
SCP Comp
PWM Comp 1
PWM Comp 2
OUT 1
OUT 2
TIMER LATCH
UVLO
DT 1
DT 2
GND

■ BA6865KV [ROHM]
(Motor Driver Controller)

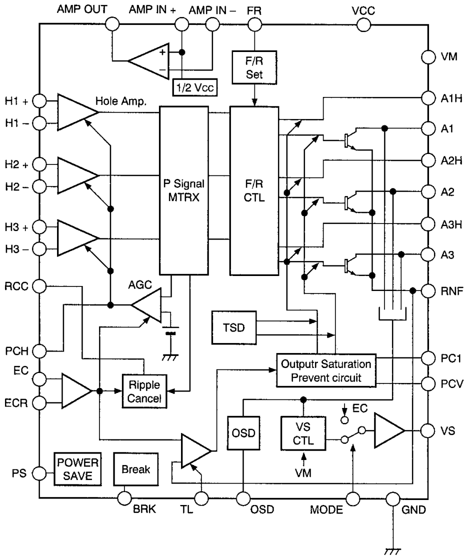

L.UNREG
TEST1
TEST2
DETECT
ISET
SL
D. UNREG
L.REF
L.FWD
L.REV
L.GND
D.FG-
D.FGPG
D.FGOUT
D.FGSOUT
D.PG-
D.PGOUT
D.PGEOUT
D.PCV
D.PCI
D.EC
D.ECR
D.CL
D0
D1
D2
D3
D4
VCC
GND1
GND2
F.GND1
F.GND2
C.EU
C.HU+
C.HU-
C.HV+
C.HV-
C.HW+
C.HW-
C.RCC
C.EC
C.ECR
C.FG-
C.FG+
C.FGOUT
C.FGSOUT
Control logic
L.FIN
L.RIN
Driver
Start circuit
HYS width control
Serial parallel
FG AMP
FG HYS AMP
PG AMP
PG HYS AMP
Drive signal composition logic
Upper lower distribution
Output amp
Output TR. saturation prevent circuit
Brake
D.BRK
Torque control amp
Current senseamp
Current limit
Shift register
D-latch
Error amp
C.F/R
MODE
D.PG.SM
D.BRK
L.FIN
L.RIN
PW_SALE
C.SD
D.VM
All-wave/ half-wave
Direction setting
Hall amp
Signal synthesis
Upper lower distribution
Output amp
Torque ripple cancel
Torque control amp
Current limit
Current sense amp
TSD
Power save
PW_SAVE
Short detection
C.VM
C.EC
Error amp
Serial parallel
MODE
C.CL
C.BRK
D.VM
D.U
D.V
D.W
D.GND
D.UNPEG
D.UIN
D.VIN
D.WIN
D.COM
D.VS
CS
CLK
DIN
DOUT
C.VM
C.UNREG
C.COM
C.U
C.V
C.W
C.GND
C.PCV
C.PCI
C.VS

■ BA6862FS-X [ROHM]
(Motor Driver

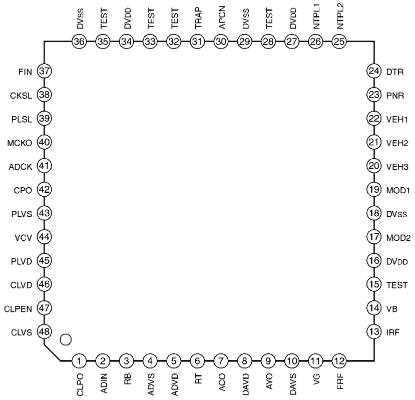

RNF
A3
A2
A1
A3H
A2H
A1H
H1 +
H1 –
H2 +
H2 –
H3 +
H3 –
RCC
PCH
AMP IN+
BA6862FS
GND
OSD
VM
VS
MODE
EC
ECR
TL
PC1
PCU
BRK
FR
PS
VCC
AMP OUT
AMP IN –

(TOP VIEW)

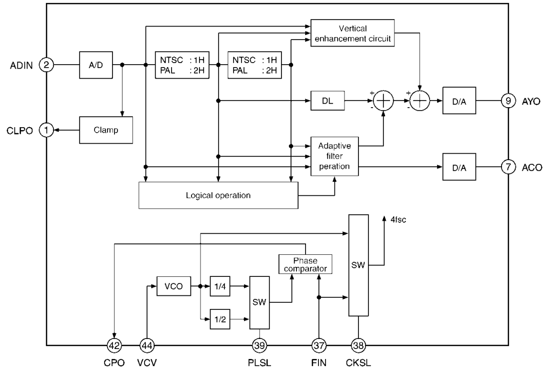
Pin No.	Symbol	Function
1	GND	GND
2	OSD	Output detect for short circuit
3	VM	Power source for motor drive
4	VS	Control for motor drive
5	MODE	Current/Voltage switching
6	EC	Torque control
7	ECR	Torque reference
8	TL	Torque limited
9	PCI	Output saturation prevent level (low level)
10	PCV	Output saturation prevent level (high level)
11	BRK	Break input H : Break L : Movement
12	FR	Foward/Reverse CTL input
13	PS	Power save H : Stand-by L : Movement
14	VCC	
15	AMP OUT	Amplifire output
16	AMP IN –	Amplifire input (–)
17	AMP IN +	Amplifire input (+)
18	PCH	Hole amp, AGC phase compareter
19	RCC	Ripple cancel
20	H3 –	Hole signal input
21	H3 +	Hole signal input
22	H2 –	Hole signal input
23	H2 +	Hole signal input
24	H1 –	Hole signal input
25	H1 +	Hole signal input
26	A1H	Pre motor drive output
27	A2H	Pre motor drive output
28	A3H	Pre motor drive output
29	A1	Motor drive output
30	A2	Motor drive output
31	A3	Motor drive output
32	RNF	GND for motor drive


AMP OUT
AMP IN +
AMP IN –
FR
VCC
1/2 Vcc
F/R Set
VM
A1H
A1
A2H
A2
A3H
A3
RNF
H1 +
H1 –
Hole Amp.
H2 +
H2 –
H3 +
H3 –
P Signal MTRX
F/R CTL
RCC
AGC
PCH
EC
ECR
Ripple Cancel
TSD
Outputr Saturation Prevent circuit
PC1
PCV
EC
OSD
VS CTL
VM
VS
PS
POWER SAVE
Break
BRK
TL
OSD
MODE
GND

■ CXD2064Q [SONY]
(DIGITAL COM FILTER (NTSC/PAL))


DVss 36
TEST 35
DVDD 34
TEST 33
TEST 32
TRAP 31
APCN 30
DVss 29
TEST 28
DVDD 27
NTPL1 26
NTPL2 25
FIN 37
CKSL 38
PLSL 39
MCKO 40
ADCK 41
CPO 42
PLVS 43
VCV 44
PLVD 45
CLVD 46
CLPEN 47
CLVS 48
24 DTR
23 PNR
22 VEH1
21 VEH2
20 VEH3
19 MOD1
18 DVss
17 MOD2
16 DVDD
15 TEST
14 VB
13 IRF
1 CLPO
2 ADIN
3 RB
4 ADVS
5 ADVD
6 RT
7 ACO
8 DAVD
9 AYO
10 DAVS
11 VG
12 VRF

(Top View)


ADIN 2
CLPO 1
A/D
Clamp
NTSC : 1H
PAL : 2H
NTSC : 1H
PAL : 2H
Vertical enhancement circuit
DL
Adaptive filter peration
D/A
D/A
9 AYO
7 ACO
Logical operation
4fsc
SW
Phase comparator
VCO
1/4
1/2
SW
42 CPO
44 VCV
39 PLSL
37 FIN
38 CKSL

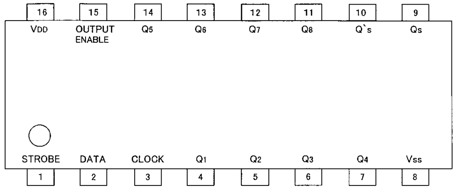
Pin Description

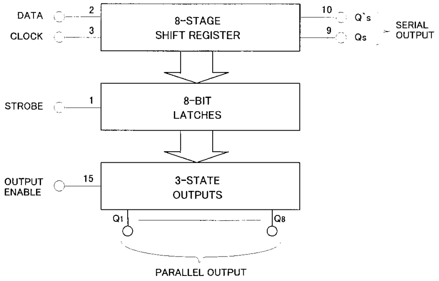
Pin No.	Symbol	I/O	Description
1	CLPO	O	Internal clamp circuit current output. Connect to ADIN when using the internal clamp. Leave this pin open when not in use.
2	ADIN	I	Comb filter analog input (A/D converter input).
3	RB	O	Reference bottom voltage for the A/D converter (0.52V typ.).
4	ADVS	—	A/D converter analog ground.
5	ADVD	—	A/D converter analog power supply. (5.0V)
6	RT	O	Reference top voltage for the A/D converter (2.60V typ.).
7	ACO	O	Analog chroma signal output. Output can be obtained by connecting a resistor between this pin and the analog ground.
8	DAVD	—	D/A converter analog power supply. (5.0V)
9	AYO	O	Analog luminance signal output. Output can be obtained by connecting a resistor between this pin and the analog ground.
10	DAVS	—	D/A converter analog ground.
11	VG	O	D/A converter related pin. Connect a capacitor of approximately 0.1μF between this pin and the analog power supply (DAVD).
12	VRF	I	Sets the full-scale value of the Y and C-channel D/A converter output signal.
13	IRF	O	Connect a resistor of “16R” (16 times the output resistor “R” of the D/A converter).
14	VB	O	D/A converter related pin. Connect to the analog ground (DAVS) via a capacitor of approximately 0.1μF.
15	TEST	I	Test pin. Normally fix to “Low”.
16	DVDD	—	Digital power supply. (5.0V)
18	DVSS	—	Digital ground.
17	MOD2	I	Y/C separation mode setting. MOD2 MOD1 L L Adaptive processing mode H L BPF separation mode H H Through mode
19	MOD1	I	
20	VEH3	I	Vertical enhancement setting. Can be set in 8 stages from VEH3 VEH2 VEH1: LLL (off) to HHH (max.)
21	VEH2	I	
22	VEH1	I	
23	PNR	I	L: NTSC/H: PAL, M-PAL, N-PAL
24	DTR	I	Normally fix to “Low”.
25	NTPL2	I	NTSC/PAL/M-PAL/N-PAL mode setting. NTPL2 NTPL1 L L NTSC L H PAL H L M-PAL H H N-PAL
26	NTPL1	I	
27	DVDD	—	Digital power supply. (5.0V)

Pin No.	Symbol	I/O	Description
28	TEST	I	Test pin. Normally fix to “Low”.
29	DVSS	—	Digital ground.
30	APCN	I	Horizontal aperture correction circuit setting. Low: Off, High: On.
31	TRAP	I	Trap filter setting. Low: Off, High: On.
32	TEST	I	Test pin. Normally open or fix to “Low”.
33	TEST	I	Test pin. Normally open or fix to “Low”.
34	DVDD	—	Digital power supply. (5.0V)
35	TEST	I	Test pin. Normally open or fix to “Low”.
36	DVSS	—	Digital ground.
37	FIN	I	Clock input. Input the burst-locked fsc (2fsc) when using the internal PLL. Input the burst-locked 4fsc when not using the internal PLL.
38	CKSL	I	PLL control. Low: The internal PLL is not used. The clock (4fsc) which is input to FIN is supplied internally. High: The internal PLL is used. VCO oscillation output 4fsc clock is supplied internally.
39	PLSL	I	Selects the clock input to FIN. Low: fsc, High: 2fsc. When inputting 4fsc to FIN (when not using the internal PLL), this pin may be set to either “Low” or “High”.
40	MCKO	O	Clock (4fsc) output.
41	ADCK	I	Clock input for A/D converter. Normally connect to MCKO.
42	CPO	O	PLL phase comparator output. Leave open when not using the PLL.
43	PLVS	—	PLL analog ground.
44	VCV	I	VCO control voltage input. Connect to PLVS when not using the PLL.
45	PLVD	—	PLL analog power supply. (5.0V)
46	CLVD	—	Clamp D/A converter analog power supply. (5.0V)
47	CLPEN	I	Clamp circuit enable pin. Low: Clamp on, High: Clamp off.
48	CLVS	—	Clamp D/A converter analog ground.

■ BU4094BCFV-X [ROHM]
(8-Stage Shift/Store Register)

(Top View)

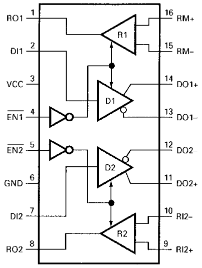

16 VDD
15 OUTPUT ENABLE
14 Q5
13 Q6
12 Q7
11 Q8
10 Q's
9 Qs
1 STROBE
2 DATA
3 CLOCK
4 Q1
5 Q2
6 Q3
7 Q4
8 Vss


DATA
CLOCK
8-STAGE SHIFT REGISTER
Q's
Qs
SERIAL OUTPUT
STROBE
8-BIT LATCHES
OUTPUT ENABLE
3-STATE OUTPUTS
Q1
Q8
PARALLEL OUTPUT

■ DS8922M-X [NATIONAL SEMICONDUCTOR]
(RS-422 Dual Differential Line Driver and Receiver Pairs)

Connection Diagrams

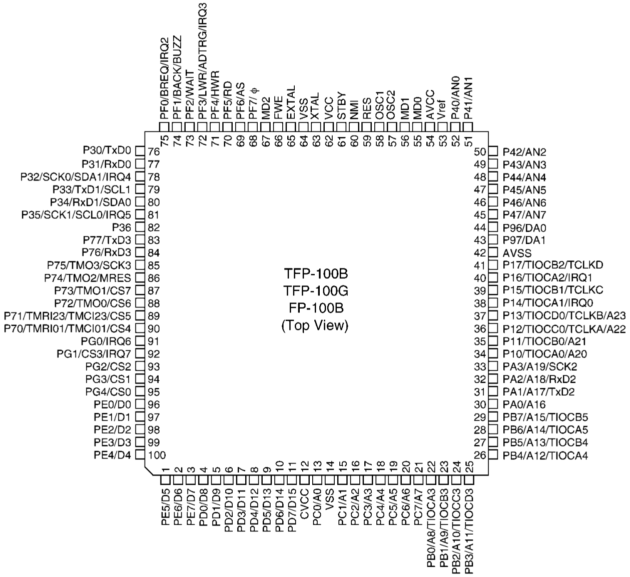
DS8922A Dual-In-Line


RO1 1
DI1 2
VCC 3
EN1 4
EN2 5
GND 6
DI2 7
RO2 8
16 RI1+
15 RI1−
14 DO1+
13 DO1−
12 DO2−
11 DO2+
10 RI2−
9 RI2+
R1
D1
D2
R2

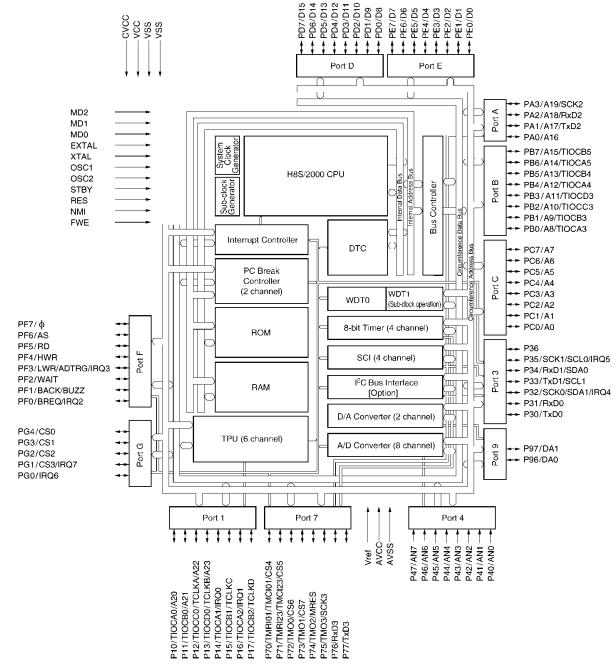
Top View

EN1	EN2	RO1	RO2	DO1	DO2
0	0	ACTIVE	ACTIVE	ACTIVE	ACTIVE
1	0	HI-Z	ACTIVE	HI-Z	ACTIVE
0	1	ACTIVE	HI-Z	ACTIVE	HI-Z
1	1	HI-Z	HI-Z	HI-Z	HI-Z

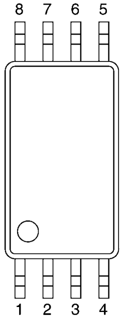
■ HD64F2238RFA13 [HITACHI]
(16-Bit Single Chip Micro Computer)


TFP-100B
TFP-100G
FP-100B
(Top View)
75 PF0/BREQ/IRQ2
74 PF1/BACK/BUZZ
73 PF2/WAIT
72 PF3/LWR/ADTRG/IRQ3
71 PF4/HWR
70 PF5/RD
69 PF6/AS
68 PF7/φ
67 MD2
66 FWE
65 EXTAL
64 VSS
63 XTAL
62 VCC
61 STBY
60 NMI
59 RES
58 OSC1
57 OSC2
56 MD1
55 MD0
54 AVCC
53 Vref
52 P40/AN0
51 P41/AN1
P30/TxD0 76
P31/RxD0 77
P32/SCK0/SDA1/IRQ4 78
P33/TxD1/SCL1 79
P34/RxD1/SDA0 80
P35/SCK1/SCL0/IRQ5 81
P36 82
P77/TxD3 83
P76/RxD3 84
P75/TMO3/SCK3 85
P74/TMO2/MRES 86
P73/TMO1/CS7 87
P72/TMO0/CS6 88
P71/TMRI23/TMCI23/CS5 89
P70/TMRI01/TMCI01/CS4 90
PG0/IRQ6 91
PG1/CS3/IRQ7 92
PG2/CS2 93
PG3/CS1 94
PG4/CS0 95
PE0/D0 96
PE1/D1 97
PE2/D2 98
PE3/D3 99
PE4/D4 100
50 P42/AN2
49 P43/AN3
48 P44/AN4
47 P45/AN5
46 P46/AN6
45 P47/AN7
44 P96/DA0
43 P97/DA1
42 AVSS
41 P17/TIOCB2/TCLKD
40 P16/TIOCA2/IRQ1
39 P15/TIOCB1/TCLKC
38 P14/TIOCA1/IRQ0
37 P13/TIOCD0/TCLKB/A23
36 P12/TIOCC0/TCLKA/A22
35 P11/TIOCB0/A21
34 P10/TIOCA0/A20
33 PA3/A19/SCK2
32 PA2/A18/RxD2
31 PA1/A17/TxD2
30 PA0/A16
29 PB7/A15/TIOCB5
28 PB6/A14/TIOCA5
27 PB5/A13/TIOCB4
26 PB4/A12/TIOCA4
1 PE5/D5
2 PE6/D6
3 PE7/D7
4 PD0/D8
5 PD1/D9
6 PD2/D10
7 PD3/D11
8 PD4/D12
9 PD5/D13
10 PD6/D14
11 PD7/D15
12 CVCC
13 PC0/A0
14 VSS
15 PC1/A1
16 PC2/A2
17 PC3/A3
18 PC4/A4
19 PC5/A5
20 PC6/A6
21 PC7/A7
22 PB0/A8/TIOCA3
23 PB1/A9/TIOCB3
24 PB2/A10/TIOCC3
25 PB3/A11/TIOCD3

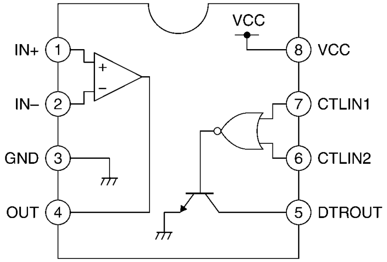
Block diagram


CVCC
VCC
VSS
VSS
MD2
MD1
MD0
EXTAL
XTAL
OSC1
OSC2
STBY
RES
NMI
FWE
Port D
Port E
Port A
Port B
Port C
Port 3
Port 9
Port F
Port G
Port 1
Port 7
Port 4
System Clock Generator
Sub-clock Generator
H8S/2000 CPU
Internal Data Bus
Internal Address Bus
Bus Controller
Interrupt Controller
DTC
PC Break Controller (2 channel)
WDT0
WDT1 (Sub-clock operation)
ROM
8-bit Timer (4 channel)
SCI (4 channel)
RAM
I²C Bus Interface [Option]
D/A Converter (2 channel)
TPU (6 channel)
A/D Converter (8 channel)
Circumference Data Bus
Circumference Address Bus
PD7/D15
PD6/D14
PD5/D13
PD4/D12
PD3/D11
PD2/D10
PD1/D9
PD0/D8
PE7/D7
PE6/D6
PE5/D5
PE4/D4
PE3/D3
PE2/D2
PE1/D1
PE0/D0
PA3/A19/SCK2
PA2/A18/RxD2
PA1/A17/TxD2
PA0/A16
PB7/A15/TIOCB5
PB6/A14/TIOCA5
PB5/A13/TIOCB4
PB4/A12/TIOCA4
PB3/A11/TIOCD3
PB2/A10/TIOCC3
PB1/A9/TIOCB3
PB0/A8/TIOCA3
PC7/A7
PC6/A6
PC5/A5
PC4/A4
PC3/A3
PC2/A2
PC1/A1
PC0/A0
P36
P35/SCK1/SCL0/IRQ5
P34/RxD1/SDA0
P33/TxD1/SCL1
P32/SCK0/SDA1/IRQ4
P31/RxD0
P30/TxD0
P97/DA1
P96/DA0
PF7/φ
PF6/AS
PF5/RD
PF4/HWR
PF3/LWR/ADTRG/IRQ3
PF2/WAIT
PF1/BACK/BUZZ
PF0/BREQ/IRQ2
PG4/CS0
PG3/CS1
PG2/CS2
PG1/CS3/IRQ7
PG0/IRQ6
P10/TIOCA0/A20
P11/TIOCB0/A21
P12/TIOCC0/TCLKA/A22
P13/TIOCD0/TCLKB/A23
P14/TIOCA1/IRQ0
P15/TIOCB1/TCLKC
P16/TIOCA2/IRQ1
P17/TIOCB2/TCLKD
P70/TMRI01/TMCI01/CS4
P71/TMRI23/TMCI23/CS5
P72/TMO0/CS6
P73/TMO1/CS7
P74/TMO2/MRES
P75/TMO3/SCK3
P76/RxD3
P77/TxD3
Vref
AVCC
AVSS
P47/AN7
P46/AN6
P45/AN5
P44/AN4
P43/AN3
P42/AN2
P41/AN1
P40/AN0

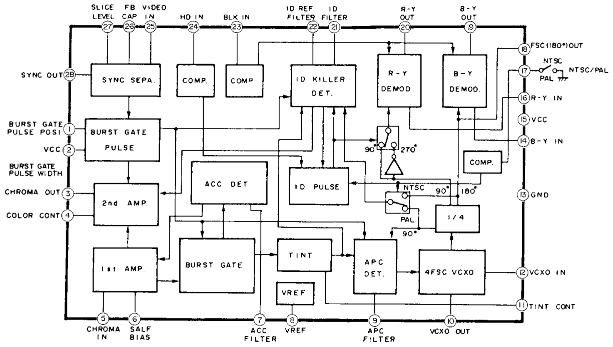
■ JCY0136-X [ROHM]
(High frequency operational amplifier for DVC)



Block diagram

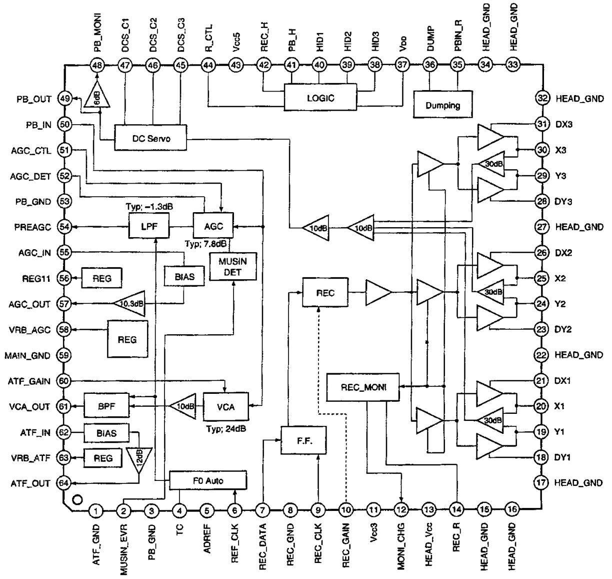

VCC
IN+ 1
IN− 2
GND 3
OUT 4
8 VCC
7 CTLIN1
6 CTLIN2
5 DTROUT

■ M51271FP-X [MITSUBISHI]
(Component Decoder)


SLICE LEVEL 27
FB CAP 26
VIDEO IN 25
HD IN 24
BLK IN 23
ID REF FILTER 22
ID FILTER 21
R-Y OUT 20
B-Y OUT 19
18 FSC(180°)OUT
17 NTSC/PAL
16 R-Y IN
15 VCC
14 B-Y IN
13 GND
12 VCXO IN
11 TINT CONT
SYNC OUT 28
BURST GATE PULSE POSI 1
VCC 2
BURST GATE PULSE WIDTH
CHROMA OUT 3
COLOR CONT 4
5 CHROMA IN
6 SALF BIAS
7 ACC FILTER
8 VREF
9 APC FILTER
10 VCXO OUT
SYNC SEPA.
COMP.
COMP.
ID KILLER DET.
R-Y DEMOD.
B-Y DEMOD.
BURST GATE PULSE
ACC DET
ID PULSE
COMP.
2nd AMP.
1/4
1st AMP
BURST GATE
TINT
APC DET.
4FSC VCXO
VREF
NTSC
PAL
90°
270°
180°

■ JCY0132 [SONY]
(REC/PLAY amplifier for digital VCR)

Block diagram

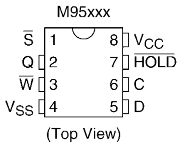

PB_MONI
DCS_C1
DCS_C2
DCS_C3
R_CTL
Vcc5
REC_H
PB_H
HID1
HID2
HID3
Vdd
DUMP
PBIN_R
HEAD_GND
HEAD_GND
PB_OUT
PB_IN
AGC_CTL
AGC_DET
PB_GND
PREAGC
AGC_IN
REG11
AGC_OUT
VRB_AGC
MAIN_GND
ATF_GAIN
VCA_OUT
ATF_IN
VRB_ATF
ATF_OUT
HEAD_GND
DX3
X3
Y3
DY3
HEAD_GND
DX2
X2
Y2
DY2
HEAD_GND
DX1
X1
Y1
DY1
HEAD_GND
ATF_GND
MUSIN_EVR
PB_GND
TC
ADREF
REF_CLK
REC_DATA
REC_GND
REC_CLK
REC_GAIN
Vcc3
MONI_CHG
HEAD_Vcc
REC_R
HEAD_GND
HEAD_GND
6dB
LOGIC
Dumping
DC Servo
Typ; −1.3dB
LPF
AGC
Typ; 7.8dB
MUSIN DET
BIAS
REG
10.3dB
REG
10dB
10dB
REC
30dB
30dB
30dB
REC_MONI
F.F.
BPF
10dB
VCA
Typ; 24dB
BIAS
REG
12dB
F0 Auto

Pin description

Pin No.	Pin name	Description
1	ATF_GND	Ground terminal
2	MUSIN_EVR	EVR terminal for non-signal detection level adjustment of AGC circuit
3	PB_GND	Ground terminal
4	TC	Time constant terminal for F0 auto PLL circuit
5	ADREF	ADREF power supply terminal ADREF
6	REF_CLK	Reference clock input terminal for F0 auto PLL
7	REC_DATA	REC DATA input terminal
8	REC_GND	Ground terminal
9	REC_CLK	REC CLOCK input terminal
10	REC_GAIN	Adjusting terminal for recoding current
11	Vcc3	Vcc3 power supply terminal
12	MONI_CHG	Monitor terminal for recording current output level : REC mode, Quick charge pulse input terminal of TC terminal : PB mode
13	HEAD_Vcc	Power supply terminal of R/P amplifier section
14	REC_R	External resistor connecting terminal for recording current output level monitor
15	HEAD_GND	Ground terminal
16	HEAD_GND	Ground terminal
17	HEAD_GND	Ground terminal
18	DY1	Damping resistor connecting terminal
19	Y1	HEAD terminal
20	X1	HEAD terminal
21	DX1	Damping resistor connecting terminal
22	HEAD_GND	Ground terminal
23	DY2	Damping resistor connecting terminal
24	Y2	HEAD terminal
25	X2	HEAD terminal
26	DX2	Damping resistor connecting terminal
27	HEAD_GND	Ground terminal
28	DY3	Damping resistor connecting terminal
29	Y3	HEAD terminal
30	X3	HEAD terminal
31	DX3	Damping resistor connecting terminal
32	HEAD_GND	Ground terminal
33	HEAD_GND	Ground terminal
34	HEAD_GND	Ground terminal
35	PBIN_R	External resistor connecting terminal for playback reference current

Pin No.	Pin name	Description
36	DUMP	HEAD resonance control terminal at playback mode
37	VDD	VDD power supply terminal
38	HID3	Mode control terminal, channel select of playback amplifier and control of recording current measurement circuit
39	HID2	Mode control terminal, channel select of recording/playback amplifier
40	HID1	Mode control terminal, channel select of recording/playback amplifier
41	PB_H	Mode control terminal, ON/OFF of playback circuit
42	REC_H	Mode control terminal, ON/OFF of recording circuit
43	Vcc5	Vcc5 power supply terminal
44	R_CTL	Mode control terminal, ON/OFF of recording current output
45	DCS_C3	Time constant terminal for DC servo circuit
46	DCS_C2	Time constant terminal for DC servo circuit
47	DCS_C1	Time constant terminal for DC servo circuit
48	PB_MONI	PB amplifier monitor terminal
49	PB_OUT	PB amplifier output terminal
50	PB_IN	PB MAIN/ATF input terminal
51	AGC_CTL	AGC control terminal for MAIN family
52	AGC_DET	Time constant terminal for MAIN family
53	PB_GND	Ground terminal
54	PREAGC	AGC+LPF output terminal for MAIN family
55	AGC_IN	10.3dB amplifier input terminalfor MAIN family
56	REG11	Regulator 1.1V output terminal
57	AGC_OUT	Output terminal for MAIN family
58	VRB_AGC	Bottom reference voltage output terminal for A/D converter of MAIN family
59	MAIN_GND	Ground terminal
60	ATF_GAIN	VCA control terminal for ATF family
61	VCA_OUT	VCA+BPF output terminal for ATF family
62	ATF_IN	12dB amplifier input terminal for ATF family
63	VRB_ATF	Bottom reference voltage output terminal for A/D converter of ATF family
64	ATF_OUT	Output terminal for ATF family

■ M95320-WMN6-X [ST MICROELECTRONICS]
(64/32 Kbit Serial SPI Bus EEPROM)

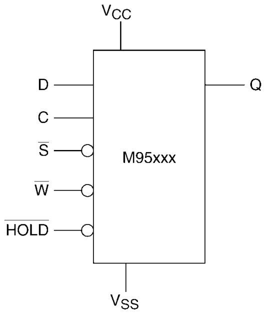

M95xxx
S 1
Q 2
W 3
VSS 4
8 VCC
7 HOLD
6 C
5 D

(Top View)

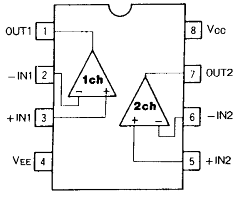
Signal Names

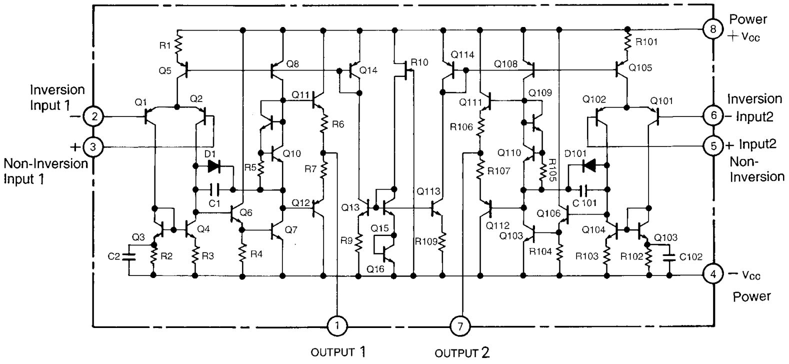
C	Serial Clock
D	Serial Data Input
Q	Serial Data Output
S	Chip Select
W	Write Protect
HOLD	Hold
V_{CC}	Supply Voltage
V_{SS}	Ground

Logic Diagram

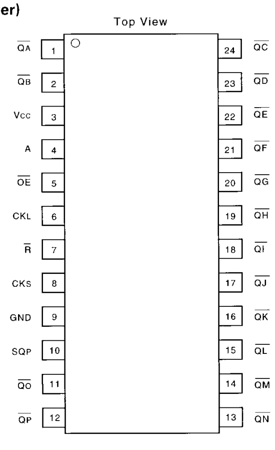

VCC
D
C
S
W
HOLD
M95xxx
Q
VSS

■ M5218AFP-X [MITSUBISHI]
(Dual Op.Amp.)

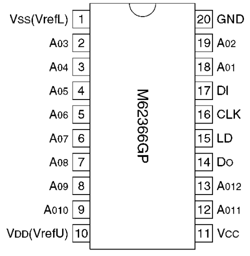

OUT1 1
−IN1 2
+IN1 3
VEE 4
8 Vcc
7 OUT2
6 −IN2
5 +IN2
1ch
2ch


Inversion Input 1
Non-Inversion Input 1
Power + Vcc
Inversion Input2
Input2 Non-Inversion
− Vcc Power
OUTPUT 1
OUTPUT 2
R1
Q5
Q1
Q2
D1
C1
Q3
Q4
C2
R2
R3
R4
Q8
Q11
R6
Q10
R5
R7
Q6
Q7
Q12
Q14
R10
Q13
Q15
Q16
R9
Q113
R109
Q114
Q108
Q109
Q111
R106
Q110
R107
R105
Q112
Q103
Q106
R104
D101
C101
Q102
Q101
R101
Q105
Q104
Q103
R103
R102
C102

■ M66311FP-X [MITSUBISHI]
(LED Driver)


Top View
QA 1
QB 2
Vcc 3
A 4
OE 5
CKL 6
R 7
CKS 8
GND 9
SQP 10
QO 11
QP 12
24 QC
23 QD
22 QE
21 QF
20 QG
19 QH
18 QI
17 QJ
16 QK
15 QL
14 QM
13 QN

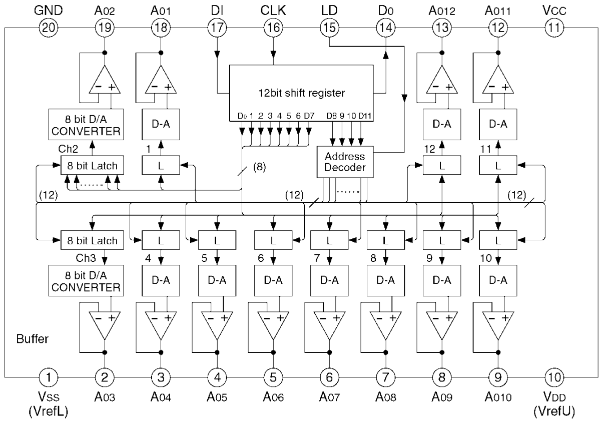
■ M62366GP-X [MITSUBISHI] (8bit 12channel D/A converter)


Vss(VrefL) 1
A03 2
A04 3
A05 4
A06 5
A07 6
A08 7
A09 8
A010 9
VDD(VrefU) 10
20 GND
19 A02
18 A01
17 DI
16 CLK
15 LD
14 Do
13 A012
12 A011
11 Vcc
M62366GP

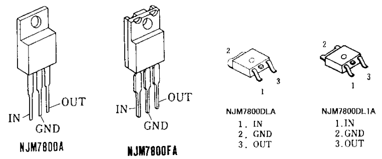
(TOP VIEW)

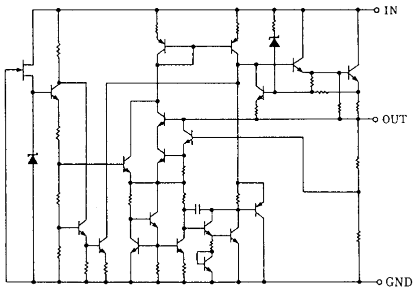
Pin No.	Symbol	Function
⑰	DI	Serial data input terminal to input 12-bit long serial data
⑭	Do	Terminal to output MSB data of 12-bit shift register
⑯	CLK	Shift clock input terminal.Input signal at DI pin is input to 12-bit shift register at rise of shift clock pulse
⑮	LD	When H-level signal is input to this terminal,the value stored in 12-bit shift register is loaded in decoder and D-A converter output register
⑱ ⑲ ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑫ ⑬	A01 A02 A03 A04 A05 A06 A07 A08 A09 A010 A011 A012	8-bit D-A converter output terminal
⑪	VCC	Power supply terminal
⑳	GND	GND terminal
⑩	VDD	D-A converter upper reference voltage input terminal
①	Vss	D-A converter lower reference voltage input terminal

Block Diagram

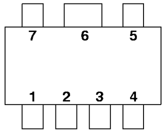

GND ⑳
A02 ⑲
A01 ⑱
DI ⑰
CLK ⑯
LD ⑮
Do ⑭
A012 ⑬
A011 ⑫
Vcc ⑪
12bit shift register
Do 1 2 3 4 5 6 D7 D8 9 10 D11
8 bit D/A CONVERTER
Ch2
8 bit Latch
D-A
L
Address Decoder
(8)
(12)
Ch3
Buffer
① Vss (VrefL)
② A03
③ A04
④ A05
⑤ A06
⑥ A07
⑦ A08
⑧ A09
⑨ A010
⑩ VDD (VrefU)

■ NJM78M05DL1A-X [JRC] (3-Terminal Positive Voltage Regulator (+5V))


IN
GND
OUT
NJM7800A
NJM7800FA
NJM7800DLA
1. IN
2. GND
3. OUT
NJM7800DL1A
1.IN
2.GND
3.OUT



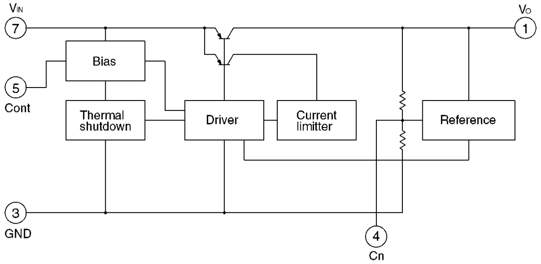
■ MM1565AF-X [MITSUMI] (500mA Regulator (5V))



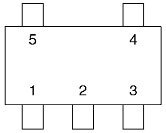
(TOP VIEW)

1	Vo
2	NC
3	GND
4	Cn
5	CONT
6	Sub
7	VIN

Block Diagram


VIN ⑦
Vo ①
Bias
⑤ Cont
Thermal shutdown
Driver
Current limitter
Reference
③ GND
④ Cn

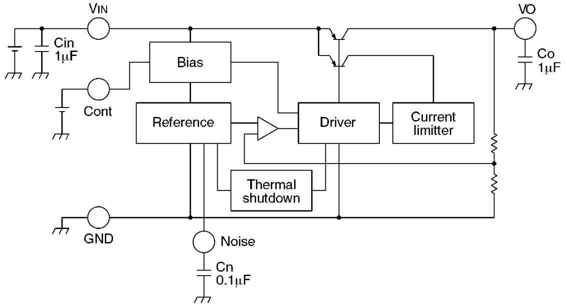
■ MM1571JN-X [MITSUMI] (1.8V Regulator)



SOT-25A
(TOP VIEW)

1	VIN
2	GND
3	Cont
4	Noise
5	Vo

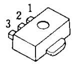
Block Diagram


VIN
VO
Cin 1μF
Co 1μF
Bias
Cont
Reference
Driver
Current limiter
Thermal shutdown
GND
Noise
Cn 0.1μF

■ MM1572FN-X [MITSUMI] (Refer to MM1571JN-X.)

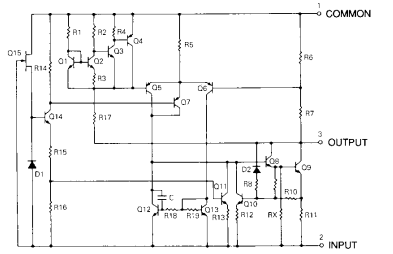
■ MM1572KN-X [MITSUMI] (Refer to MM1571JN-X.)

■ NJM79L05UA-X [JRC] (3-Terminal Negative Voltage Regulator (-5V))

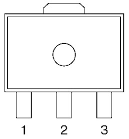


1. COMMON
2. IN
3. OUT

NJM79L00UA


1 COMMON
3 OUTPUT
2 INPUT
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Q10
Q11
Q12
Q13
Q14
Q15
R1
R2
R3
R4
R5
R6
R7
R8
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
RX
D1
D2
C

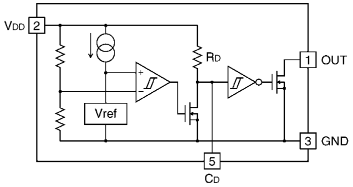
■ NJU7222U30-X [JRC] (3-Terminal Positive Voltage Regulator)



1. GND
2. INPUT
3. OUTPUT

■ RN5VD26AA-X [RICHO]
(Voltage detector)

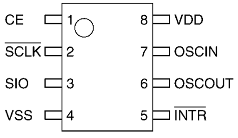
Block diagram


VDD
2
RD
1
OUT
Vref
3
GND
5
CD

Pin descriptions

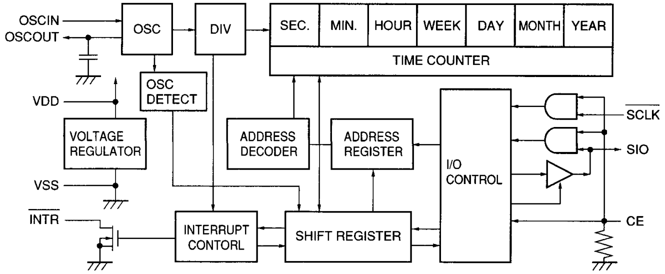
Pin Number	Pin Name	Pin Description
1	OUT	Output terminal
2	VDD	Power supply terminal
3	GND	Ground terminal
4	NC	Not connect
5	CD	External capacitor connecting terminal for delay

■ RS5C314-X [RICHO]
(CMOS Realtime Clock)

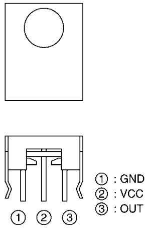

CE
1
8
VDD
SCLK
2
7
OSCIN
SIO
3
6
OSCOUT
VSS
4
5
INTR

(Top view)

Block diagram


OSCIN
OSCOUT
OSC
DIV
SEC.
MIN.
HOUR
WEEK
DAY
MONTH
YEAR
TIME COUNTER
OSC DETECT
VDD
VOLTAGE REGULATOR
ADDRESS DECODER
ADDRESS REGISTER
I/O CONTROL
SCLK
SIO
VSS
INTR
INTERRUPT CONTORL
SHIFT REGISTER
CE

■ SBX3071-52 [SONY]
(Remote Control Receiver)


① : GND
② : VCC
③ : OUT
①
②
③

Block Diagram

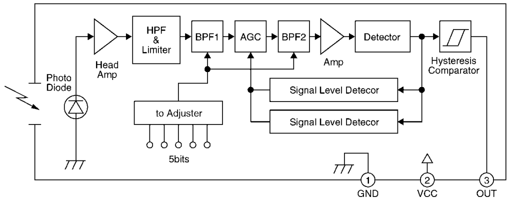
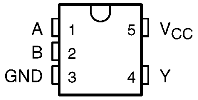


Photo Diode
Head Amp
HPF & Limiter
BPF1
AGC
BPF2
Amp
Detector
Hysteresis Comparator
Signal Level Detecor
Signal Level Detecor
to Adjuster
5bits
①
GND
②
VCC
③
OUT

■ SN74AHC1G00K-X [TEXAS INSTRUMENTS]
(Single 2-Input Positive NAND Gate)

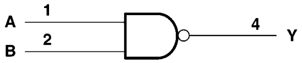

A
1
5
VCC
B
2
GND
3
4
Y

(TOP VIEW)

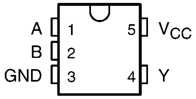
FUNCTION TABLE

INPUTS		OUTPUT
A	B	Y
H	H	L
L	X	H
X	L	H

Logic diagram (positive logic)



■ SN74AHC1G32K-X [TEXAS INSTRUMENTS]
(Single 2-Input Positive OR Gate)

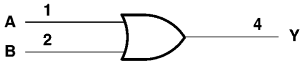

A
1
5
VCC
B
2
GND
3
4
Y

(TOP VIEW)

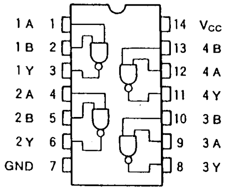
FUNCTION TABLE

INPUTS		OUTPUT
A	B	Y
H	X	H
X	H	H
L	L	L

Logic diagram (positive logic)



■ SN74AHC00PW-X [TEXAS INSTRUMENTS]
(Quad 2-Input NAND Gates)

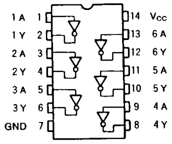

1A 1
1B 2
1Y 3
2A 4
2B 5
2Y 6
GND 7
14 VCC
13 4B
12 4A
11 4Y
10 3B
9 3A
8 3Y

(TOP VIEW)

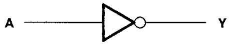
TRUE Table

A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L

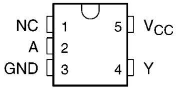
■ SN74AHC04PW-X [TEXAS INSTRUMENTS]
(Hex Inverters)


1A 1
1Y 2
2A 3
2Y 4
3A 5
3Y 6
GND 7
14 Vcc
13 6A
12 6Y
11 5A
10 5Y
9 4A
8 4Y

(TOP VIEW)



■ SN74AHC1GU04K-X [TEXAS INSTRUMENTS]
(Single Inverter Gate)

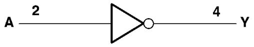

NC
1
5
VCC
A
2
GND
3
4
Y

(TOP VIEW)

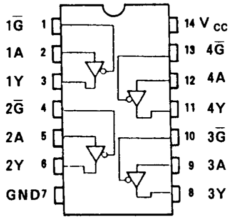
NC – No internal connection

FUNCTION TABLE

INPUT A	OUTPUT Y
H	L
L	H



■ SN74AHCT125PW-X [TEXAS INSTRUMENTS]
(Quad Bus Buffer Gates With 3-State Outputs)


1G̅ 1
1A 2
1Y 3
2G̅ 4
2A 5
2Y 6
GND 7
14 Vcc
13 4G̅
12 4A
11 4Y
10 3G̅
9 3A
8 3Y

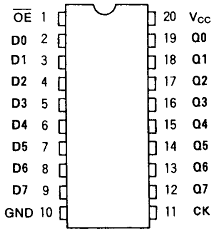
(TOP VIEW)

TC74HC125A TRUE Table

INPUTS		OUTPUTS
G	A	Y
H	X	Z
L	L	L
L	H	H

X : Don't Care
Z : High Impedance

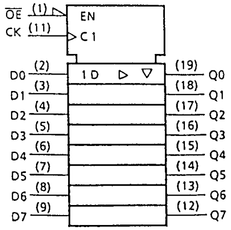
■ SN74AHC574PW-X [TEXAS INSTRUMENTS]
(Octal D-Type EDGE-Trigger Flip-Flop With NON Inverted 3-State Outputs)



$\overline{OE}$ 1
D0 2
D1 3
D2 4
D3 5
D4 6
D5 7
D6 8
D7 9
GND 10
20 Vcc
19 Q0
18 Q1
17 Q2
16 Q3
15 Q4
14 Q5
13 Q6
12 Q7
11 CK

(TOP VIEW)

Logic

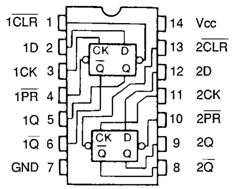


$\overline{OE}$ (1)
CK (11)
EN
C1
1D
D0 (2)
D1 (3)
D2 (4)
D3 (5)
D4 (6)
D5 (7)
D6 (8)
D7 (9)
(19) Q0
(18) Q1
(17) Q2
(16) Q3
(15) Q4
(14) Q5
(13) Q6
(12) Q7

INPUTS			OUTPUT
$\overline{OE}$	CK	D	
H	X	X	Z
L	↓	X	Qn
L	↑	L	L
L	↑	H	H

X : Don't Care
Z : High Impedance
Qn : No Change

■ SN74AHC74PW-X [TEXAS INSTRUMENTS]
(Dual D-Type Flip-Flop with Preset and Clear)



1$\overline{CLR}$ 1
1D 2
1CK 3
1$\overline{PR}$ 4
1Q 5
1$\overline{Q}$ 6
GND 7
14 Vcc
13 2$\overline{CLR}$
12 2D
11 2CK
10 2$\overline{PR}$
9 2Q
8 2$\overline{Q}$
CK D
$\overline{Q}$ Q

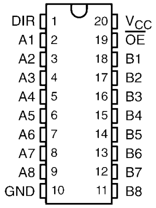
(Top View)

TRUE Table

INPUTS				OUTPUTS		FUNCTION
$\overline{CLR}$	$\overline{PR}$	D	CK	Q	$\overline{Q}$	
L	H	X	X	L	H	CLEAR
H	L	X	X	H	L	PRESET
L	L	X	X	H	H	—
H	H	L	↑	L	H	—
H	H	H	↑	H	L	—
H	H	X	L	Q_n	$\overline{Q}_n$	NO CHANGE

X : Don't care

■ SN74AHC245DGV-X [TEXAS INSTRUMENTS]
(Octal Bus Transceivers with 3-State Outputs)



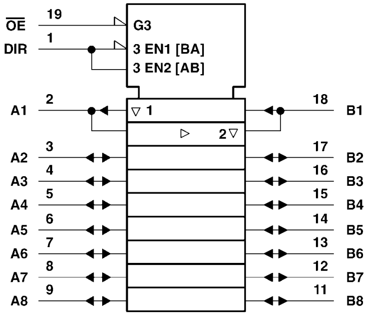
DIR 1
A1 2
A2 3
A3 4
A4 5
A5 6
A6 7
A7 8
A8 9
GND 10
20 V_{CC}
19 $\overline{OE}$
18 B1
17 B2
16 B3
15 B4
14 B5
13 B6
12 B7
11 B8

(TOP VIEW)

FUNCTION TABLE
(each transceiver)

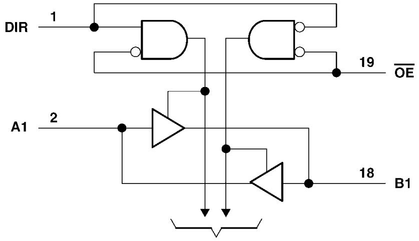
INPUTS		OPERATION
$\overline{OE}$	DIR	
L	L	B data to A bus
L	H	A data to B bus
H	X	Isolation

Logic symbol



$\overline{OE}$ 19
DIR 1
G3
3 EN1 [BA]
3 EN2 [AB]
▽ 1
2▽
A1 2
A2 3
A3 4
A4 5
A5 6
A6 7
A7 8
A8 9
18 B1
17 B2
16 B3
15 B4
14 B5
13 B6
12 B7
11 B8

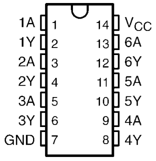
Logic diagram (positive logic)



DIR 1
19 $\overline{OE}$
A1 2
18 B1

To Seven Other Channels

■ SN74AHCT04PW-X [TEXAS INSTRUMENTS]
(Hex Inverters)



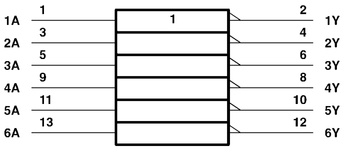
1A 1
1Y 2
2A 3
2Y 4
3A 5
3Y 6
GND 7
14 Vcc
13 6A
12 6Y
11 5A
10 5Y
9 4A
8 4Y

(TOP VIEW)

FUNCTION TABLE
(each inverter)

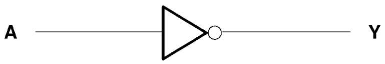
INPUT A	OUTPUT Y
H	L
L	H

Logic symbol

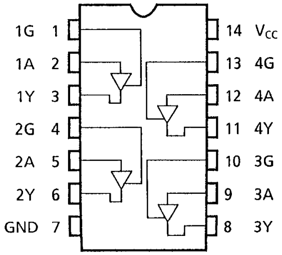


1
1A 1
2A 3
3A 5
4A 9
5A 11
6A 13
2 1Y
4 2Y
6 3Y
8 4Y
10 5Y
12 6Y

Logic diagram, each inverter (positive logic)



■ SN74LV126ADGV-X [TEXAS INSTRUMENTS]
(Bus Buffer Gates with 3-State Output)



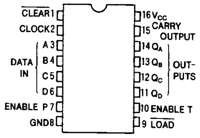
1G 1
1A 2
1Y 3
2G 4
2A 5
2Y 6
GND 7
14 Vcc
13 4G
12 4A
11 4Y
10 3G
9 3A
8 3Y

(TOP VIEW)

INPUTS		OUTPUTS
G	A	Y
L	X	Z
H	L	L
H	H	H

X: Don't Care
Z : High Impedance

■ SN74HC161APW-X [TEXAS INSTRUMENTS]
(Synchronous 4-Bit Counters Binary, Direct Clear)



$\overline{CLEAR}$ 1
CLOCK 2
A 3
B 4
C 5
D 6
DATA IN
ENABLE P 7
GND 8
16 V_{CC}
15 CARRY OUTPUT
14 Q_A
13 Q_B
12 Q_C
11 Q_D
OUT-PUTS
10 ENABLE T
9 $\overline{LOAD}$

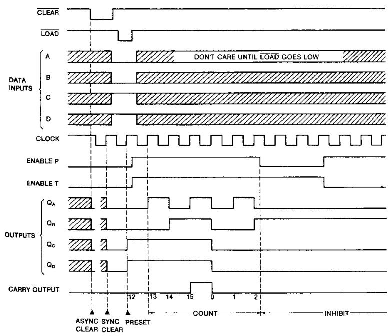
(TOP VIEW)

- THRU TABLE

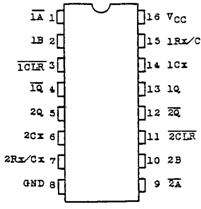
INPUTS					OUTPUTS				FUNCTION
$\overline{CLR}$	$\overline{LD}$	ENP	ENT	CK	Q_A	Q_B	Q_C	Q_D	
L	X	X	X	X	L	L	L	L	Reset to "0"
H	L	X	X	↑	A	B	C	D	Preset Data
H	H	X	L	X	No change				Do not count
H	H	L	X	X	No change				Do not count
H	H	H	H	↑	Count up				Count

Note X : Don't care
A,B,C,D : Logic level of input data
Carry : CARRY=ENT·Q_A·Q_B·Q_C·Q_D

Timing chart



■ TC74VHC221AFT-X [TOSHIBA]
(Dual Monostable Multivibrators (With Schmitt Trigger Input))


$\overline{1A}$ 1
1B 2
$\overline{1CLR}$ 3
$\overline{1Q}$ 4
2Q 5
2Cx 6
2Rx/Cx 7
GND 8
16 V_{CC}
15 1Rx/Cx
14 1Cx
13 1Q
12 $\overline{2Q}$
11 $\overline{2CLR}$
10 2B
9 $\overline{2A}$

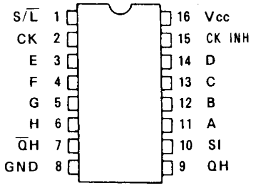
(TOP VIEW)

True Table

INPUTS			OUTPUTS		NOTE
$\overline{A}$	B	CL	Q	$\overline{Q}$	
↓	H	H	⊓	⊔	OUTPUT ENABLE
X	L	H	L	H	INHIBIT
H	X	H	L	H	INHIBIT
L	↑	H	⊓	⊔	OUTPUT ENABLE
L	H	↑	⊓	⊔	OUTPUT ENABLE
X	X	L	L	H	INHIBIT

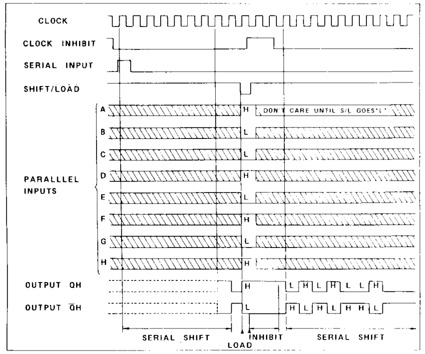
X : DON'T CARE

■ SN74LV165ADGV-X [TEXAS INSTRUMENTS]
(8-Bit Serial or Parallel-In/Serial Out Shift Registers)


S/$\overline{L}$ 1
CK 2
E 3
F 4
G 5
H 6
$\overline{QH}$ 7
GND 8
16 Vcc
15 CK INH
14 D
13 C
12 B
11 A
10 SI
9 QH

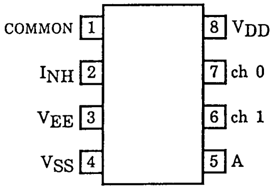
(TOP VIEW)

Timing chart



■ TC4W53FU-X [TOSHIBA]
(2-Channel Multiprexer)

(TOP VIEW)


COMMON 1
I_{NH} 2
V_{EE} 3
V_{SS} 4
8 V_{DD}
7 ch 0
6 ch 1
5 A

Truth table

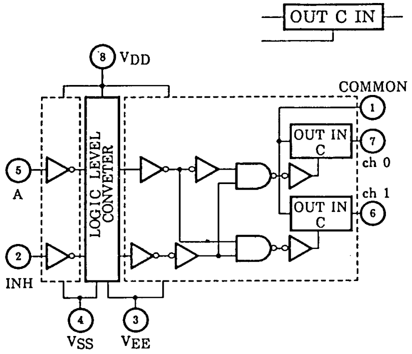
CONTROL C	IMPEDANCE BETWEEN IN-OUT ※
H	0.5~5×10^2Ω
L	>10^9Ω

※ Don't Care

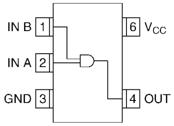
Truth table

CONTROL INPUT		ON CHANNEL
INH	A	
L	L	ch 0
L	H	ch 1
H	※	NONE

※ Don't Care


OUT C IN
8 VDD
COMMON
1
OUT IN C
7
ch 0
ch 1
OUT IN C
6
5
A
LOGIC LEVEL CONVETER
2
INH
4
VSS
3
VEE

■ TC7SET08F-X [TOSHIBA]
(2-input AND GATE)

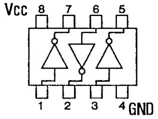

IN B 1
IN A 2
GND 3
6 V_{CC}
4 OUT Y

(TOP VIEW)

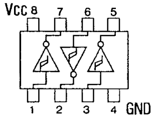
TRUTH TABLE

A	B	Y
L	L	L
L	H	L
H	L	L
H	H	H

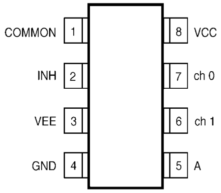
■ TC7W04F-X [TOSHIBA]
(Triple Inverter Gate)


Vcc
8
7
6
5
1
2
3
4
GND

■ TC7W14FU-X [TOSHIBA]
(Schmitt Trigger Triple Inverte Gate)


Vcc 8
7
6
5
1
2
3
4
GND

■ TC7W53FU-X [TOSHIBA]
(2-Channel Multiplexer/Demultiplexer)


COMMON 1
INH 2
VEE 3
GND 4
8 VCC
7 ch 0
6 ch 1
5 A

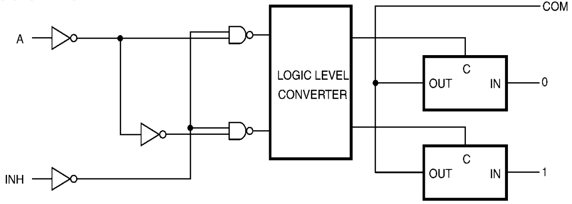
(TOP VIEW)

TRUTH TABLE

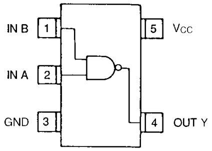
CONTROL INPUT		ON CHANNEL
INH	A	
L	L	ch 0
L	H	ch 1
H	x	NONE

x : Don't care

LOGIC DIAGRAM

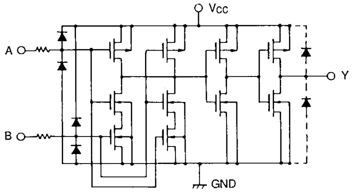

A
INH
LOGIC LEVEL CONVERTER
COM
C
OUT
IN
0
C
OUT
IN
1

■ TC7SH00FU-X [TOSHIBA]
(2-Input NAND Gate)

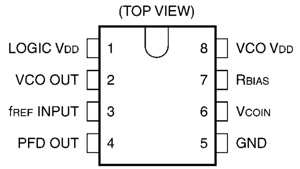

IN B 1
IN A 2
GND 3
5 Vcc
4 OUT Y

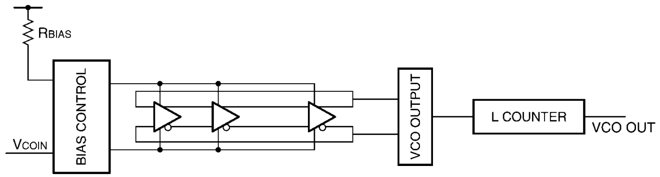
TRUE Table

A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L

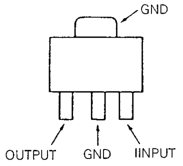


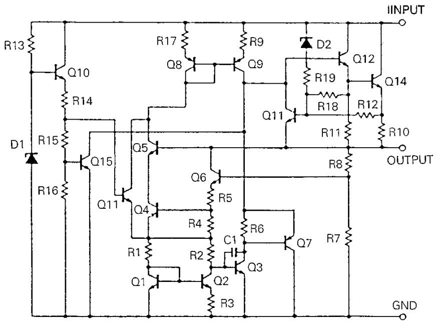
■ TLC2940IPW-X [TEXAS INSTRUMENTS] (75MHz CMOS VCO)


(TOP VIEW)
LOGIC VDD 1
VCO OUT 2
fREF INPUT 3
PFD OUT 4
8 VCO VDD
7 RBIAS
6 VCOIN
5 GND

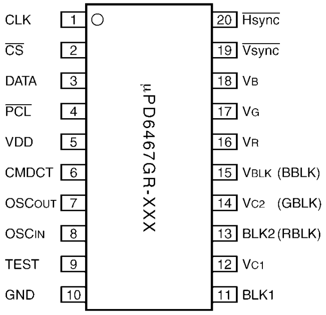

RBIAS
VCOIN
BIAS CONTROL
VCO OUTPUT
L COUNTER
VCO OUT

■ UPC78L05T-W [NEC] (3-Terminal Positive Voltage Regulator (+5V))


GND
OUTPUT
GND
IINPUT

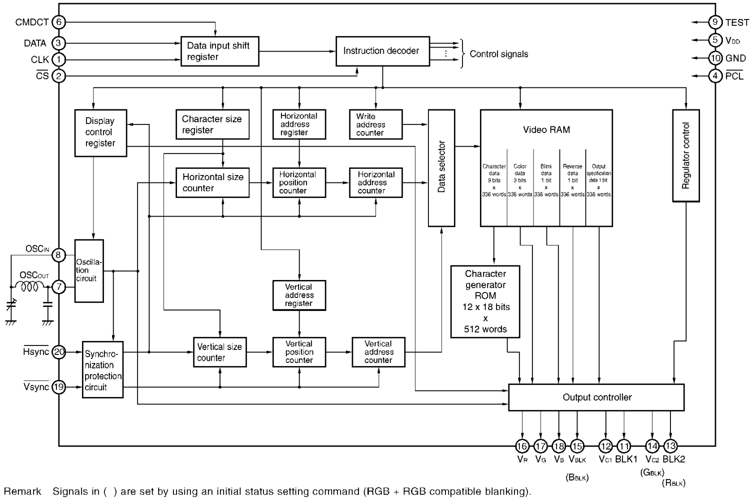

IINPUT
R13
Q10
R14
D1
R15
Q15
R16
Q11
R17
Q8
R9
Q9
D2
Q12
Q14
R19
R18
R12
Q11
R11
R10
Q5
R8
OUTPUT
Q6
Q4
R5
R4
R6
C1
Q7
R7
R1
R2
Q3
Q1
Q2
R3
GND

■ UPD6467GR-519-X [NEC] (ON-SCREEN CHARACTER DISPLAY)


CLK 1
CS 2
DATA 3
PCL 4
VDD 5
CMDCT 6
OSCOUT 7
OSCIN 8
TEST 9
GND 10
20 Hsync
19 Vsync
18 VB
17 VG
16 VR
15 VBLK (BBLK)
14 VC2 (GBLK)
13 BLK2 (RBLK)
12 VC1
11 BLK1
μPD6467GR-XXX

(Top View)

BLOCK DIAGRAM


CMDCT 6
DATA 3
CLK 1
CS 2
Data input shift register
Instruction decoder
Control signals
9 TEST
5 VDD
10 GND
4 PCL
Display control register
Character size register
Horizontal address register
Write address counter
Data selector
Video RAM
Character data 9 bits x 336 words
Color data 3 bits x 336 words
Blink data 1 bit x 336 words
Reverse data 1 bit x 336 words
Output specification data 1 bit x 336 words
Regulator control
Horizontal size counter
Horizontal position counter
Horizontal address counter
OSCIN 8
OSCOUT 7
Oscilla-tion circuit
Vertical address register
Character generator ROM 12 x 18 bits x 512 words
Hsync 20
Vsync 19
Synchro-nization protection circuit
Vertical size counter
Vertical position counter
Vertical address counter
Output controller
16 VR
17 VG
18 VB
15 VBLK (BBLK)
12 VC1
11 BLK1
14 VC2 (GBLK)
13 BLK2 (RBLK)

Remark Signals in ( ) are set by using an initial status setting command (RGB + RGB compatible blanking).

SECTION 6

EXPLODED VIEWS
&
REPLACEMENT PARTS LIST

Note:

1. *Be sure to make your orders of replacement parts according to this list.
2. Unless otherwise specified, all resistors are in OHMS, K=1,000 OHMS, all capacitors are in MICROFARADS (μF), P=μμF.
3. The P.C. Board unit marked with "■" shown below the main assembled parts.
4. The parts marked with Ⓔ on the exploded view show the electric parts.
5. IMPORTANT SAFETY NOTICE
   Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components, use only the same type.
6. The marking (RTL) indicates the retention time is limited for this item.
   After the discontinuation of this assembly in production, it will no longer be available.
7. "M" in Remark column indicates needed in the periodical maintenance.

CONTENTS

SERVICING FIXTURES & TOOLS

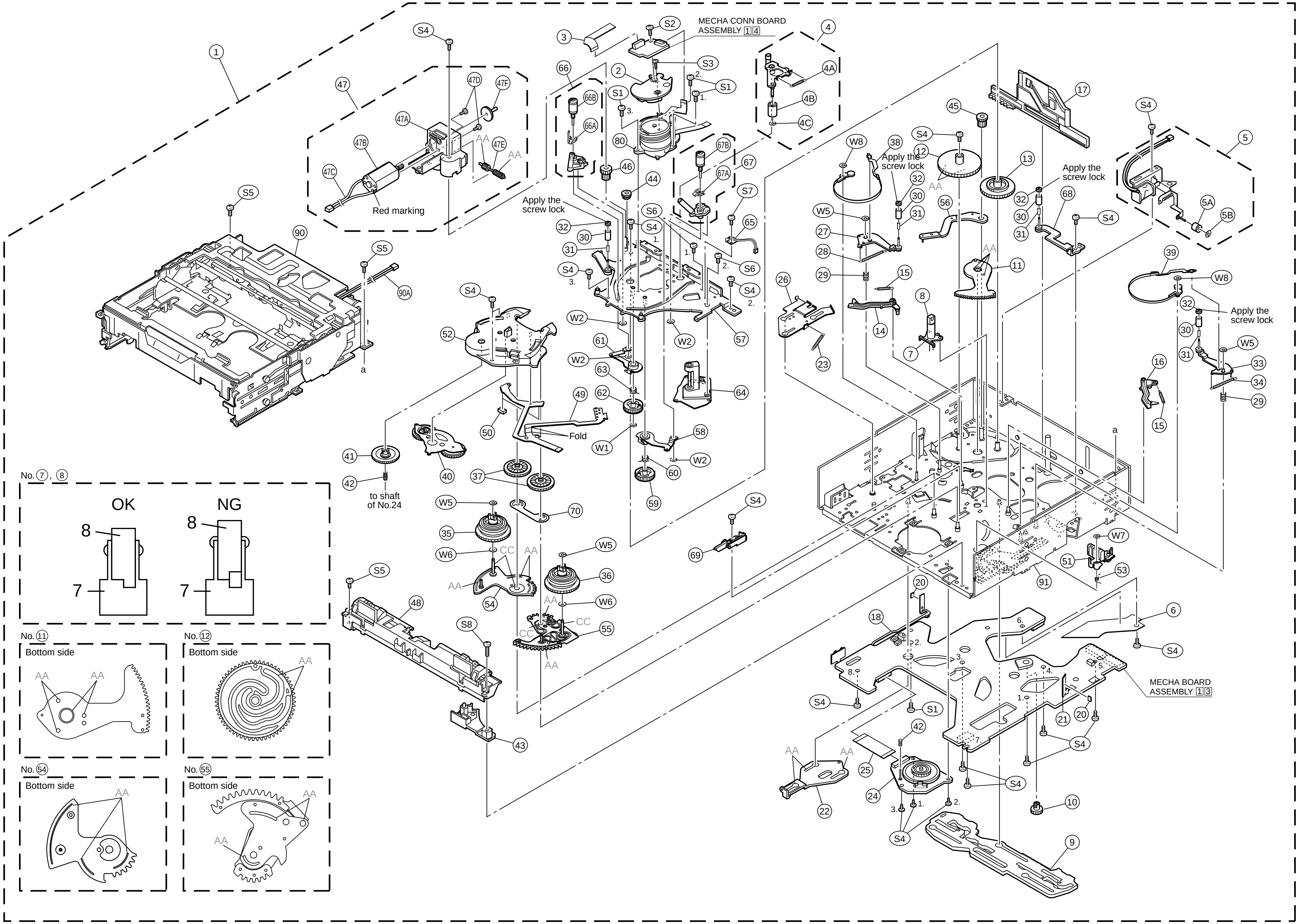
MECHANISM PARTS ASSEMBLY PRT-1
CABINET PARTS ASSEMBLY PRT-3
PACKING PARTS ASSEMBLY PRT-5
ELECTRICAL REPLACEMENT PARTS LIST PRT-7

SERVICING FIXTURES & TOOLS

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VFK1842	ALIGNMENT TAPE	1	
2	VFK1843	CASSETTE TORQUE METER	1	FOR FWD MODE
2	VFK1844	CASSETTE TORQUE METER	1	FOR REV MODE
3	VFK1149	POST DRIVER	1	
4	VFK1209	TORQUE SCREWDRIVER	1	
4	VFK1845	TORQUE SCREWDRIVER	1	REPLACEABLE BIT(LONG TYPE)
5	VFK1846	REWRITE BOARD	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks

MECHANISM PARTS ASSEMBLY



MECHA CONN BOARD ASSEMBLY 1 4
MECHA BOARD ASSEMBLY 1 3
Red marking
Apply the screw lock
Apply the screw lock
Apply the screw lock
Apply the screw lock
Fold
to shaft of No.24
a
a
No. 7 , 8
OK
NG
8
7
8
7
No. 11
Bottom side
No. 12
Bottom side
No. 54
Bottom side
No. 55
Bottom side
AA
CC
1
2
3
4
4A
4B
4C
5
5A
5B
6
7
8
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42
43
44
45
46
47
47A
47B
47C
47D
47E
47F
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
66A
66B
67
67A
67B
68
69
70
80
90
90A
91
S1
S2
S3
S4
S5
S6
S7
S8
W1
W2
W5
W6
W7
W8

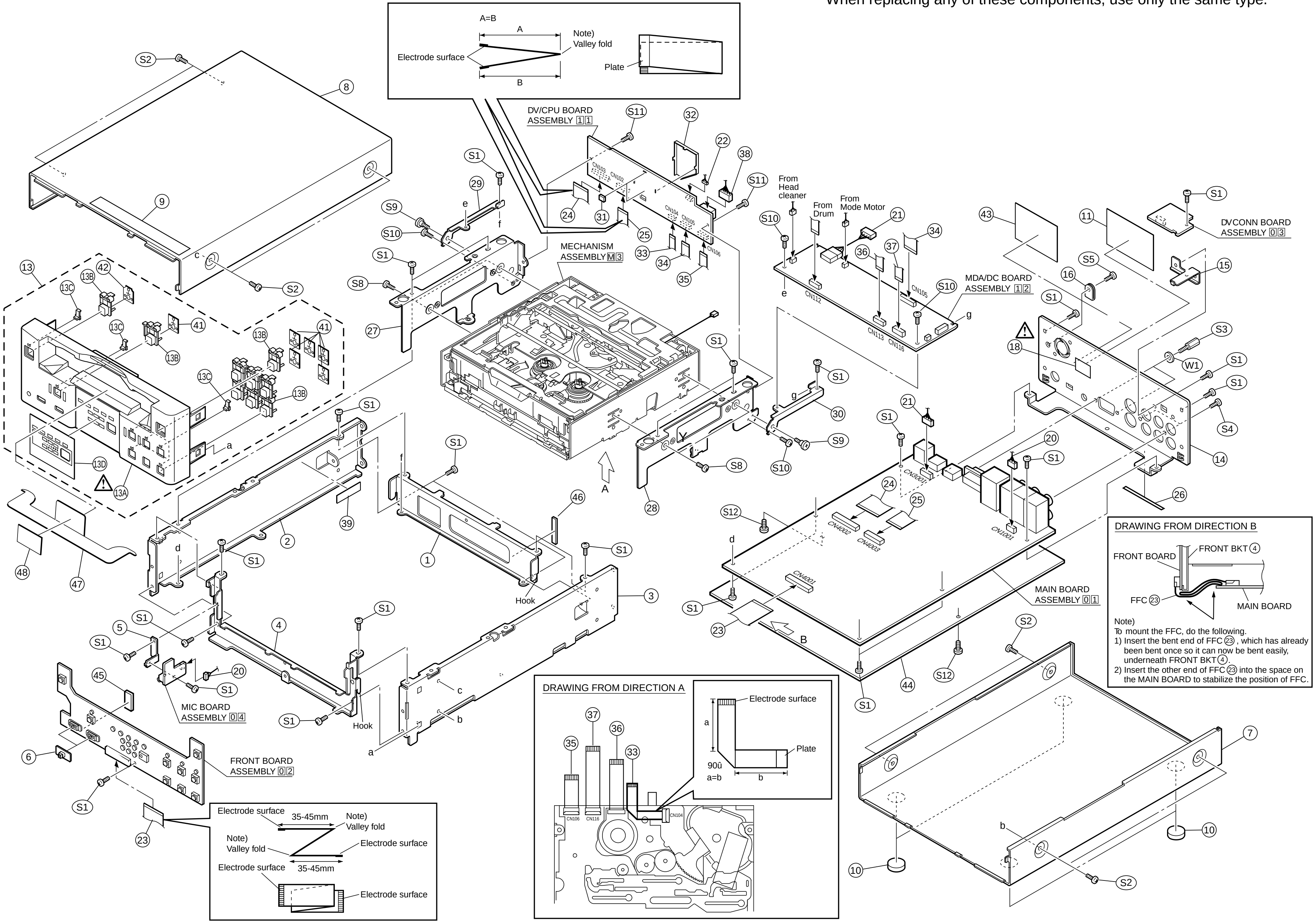
MECHANISM PARTS ASSEMBLY

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	LL30247-001A	MECHANISM ASS'Y	1	
2	LL20081-001A	TAPE GUARD	1	
3	WJT0085-001A	WIRE	1	
4	LL40370-001A	P.ARM F.ASS'Y	1	
4A	LL40357-001A	TEN.SPRING(P.A)	1	
4B	LL40313-001A	PINCH ROLLER	1	
4C	LY40382-001A	P.ROLLER CAP	1	
5	LL40371-001A	H.CLEANER ASS'Y	1	
5A	LY41249-001A	HEAD CLEANER SA	1	
5B	QYWDM0802725	SLIT WASHER	1	
6	LL40341-001A	GUIDE SHEET	1	
7	LL30257-001A	LED HOLDER	1	
8	LN59	L.E.D.	1	
9	LL20071-001A	CTL.PLATE	1	
10	LL30254-001A	M.SENSOR GEAR	1	
11	LL30260-001B	ARM GEAR	1	
12	LL20072-001A	MAIN CAM	1	
13	LL40241-001A	P.CAM GEAR	1	
14	LL30258-001A	SUP REEL LOCK	1	
15	LL40352-001A	TEN.SPRING(R.L)	2	
16	LL30259-001A	TU REEL LOCK	1	
17	LL30262-001A	PINCH PLATE	1	
18	NAL0015-001	FPC 2 ASSEMBLY	1	
20	CPT-230	PH.TRANSISTOR	2	
21	NAL0016-001	FPC 3 ASSEMBLY	1	
22	LL30255-001A	F.LOCK LEVER	1	
23	LL40351-001A	TEN.SPRING(FLL)	1	
24	QAR0247-001	REEL MOTOR	1	
25	WJT0084-001A	FFC	1	
26	LL30256-001B	SW LEVER	1	
27	LL30263-001A	SUP TEN.ARM SA.	1	
28	LL40259-001B	TEN.SPRING(STA)	1	
29	LL40362-001A	COMP.SPRING	2	
30	LL40325-001A	GUIDE ROLLER	4	
31	LL40326-001A	COLLAR	4	
32	LL40327-001A	FLANGE	4	
33	LL30265-001B	TU TEN.ARM SA.	1	
34	LL40353-001A	TEN.SPRING(TTA)	1	
35	LL30281-001A	SUP R.DISK ASSY	1	
36	LL30284-001A	TU R.DISK ASS'Y	1	
37	LL40261-001A	CONN.GEAR ASS'Y	2	
38	LL40293-001A	SUP T.BAND ASSY	1	
39	LL40300-001A	TU T.BAND ASS'Y	1	
40	LL40345-001A	IDLER ARM ASS'Y	1	
41	LL30272-001A	EMERGENCY GEAR	1	
42	LL40354-001A	COMP.SPRING(E.G)	2	
43	LL30303-001A	MIC GUIDE	1	
44	LL40242-001A	GEAR 1	1	
45	LL40243-001A	GEAR 2	1	
46	LL40244-001A	WORM WHEEL 2	1	
47	LL40245-001A	M.MOTOR ASS'Y	1	
47A	LL10068-001A	MOTOR BRACKET	1	
47B	LL40246-001A	MODE MOTOR SA	1	
47C	WJM0310-001A	WIRE	1	
47D	QYSPSPL2003Z	SCREW	2	
47E	LL40248-001A	WORM ASSEMBLY	1	
47F	LL40252-001A	E.GEAR(MODE)	1	
48	LL20087-001A	CA.GUIDE ASS'Y	1	
49	NAL0014-001A	FPC 1 ASSEMBLY	1	
50	CNB1001001V1	I.C.(PH SENSOR)	2	
51	QNZ0586-001	M.I.C.CONNECTOR	1	
52	LL10067-001B	IDLE COVER	1	
53	LL40356-001A	TORSION SPRING	1	
54	LL40316-001A	S.R.PLATE ASS'Y	1	
55	LL40319-001A	T.R.PLATE ASS'Y	1	
56	LL40368-001A	CTL.ARM ASS'Y	1	
57	LL20076-001A	SUB DECK ASS'Y	1	
58	LL40273-001A	TU L.ARM ASS'Y	1	
59	LL30273-001A	TU L.GEAR	1	
60	LL40277-001A	T.SPRING(T.L.G)	1	
61	LL40278-001A	SUP L.ARM ASS'Y	1	
62	LL30274-001A	SUP L.GEAR	1	
63	LL40282-001A	T.SPRING(S.L.G)	1	
64	QAR0248-001	CAPSTAN MOTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
65	QSD0006-001	DEW SENSOR	1	
66	LL30275-001A	SUP P.BASE ASSY	1	
66A	LL30277-001A	SUP P.B.PLATE	1	
66B	LL40284-001A	G.ROLLER ASS'Y	1	
67	LL30278-001A	TU P.BASE ASS'Y	1	
67A	LL30280-001A	TU P.B.PLATE	1	
67B	LL40284-001A	G.ROLLER ASS'Y	1	
68	LL40292-001A	E.G.R.ARM ASS'Y	1	
69	LL40324-001A	M.C.B.PIN ASS'Y	1	
70	LL30306-001A	LEAF PLATE	1	
80	YDV2103A	DRUM ASSEMBLY	1	
90	LL20064-001A	C.HOUSING ASS'Y	1	
90A	WJM0311-001A	WIRE	1	
91	LL20063-001B	MAIN DECK ASS'Y	1	
S1	QYSPSPU1735N	SCREW	4	
S2	QYSDSG2004N	SCREW	1	
S3	QYSPSPU1430M	SCREW	1	
S4	QYSPSPU1725M	SCREW	20	
S5	QYSDSP2005Z	SCREW	3	
S6	QYSDSP2003Z	SCREW	2	
S7	YQ43893	SCREW	1	
S8	QYSDSP2012Z	SCREW	1	
W1	QYWDL163525	SLIT WASHER	1	
W2	QYWDM254725	SLIT WASHER	4	
W5	QYWDM082525	SLIT WASHER	4	
W6	QYWFM123025	WASHER	2	
W7	QYWDM082025	SLIT WASHER	1	
W8	QYWDM123025	SLIT WASHER	2	

CABINET PARTS ASSEMBLY

Components identified with the mark ⚠ have the special characteristics for safety.
When replacing any of these components, use only the same type.


A=B
A
B
Note)
Valley fold
Electrode surface
Plate
DV/CPU BOARD ASSEMBLY 11
MECHANISM ASSEMBLY M3
MDA/DC BOARD ASSEMBLY 12
DV CONN BOARD ASSEMBLY 03
MAIN BOARD ASSEMBLY 01
MIC BOARD ASSEMBLY 04
FRONT BOARD ASSEMBLY 02
From Head cleaner
From Drum
From Mode Motor
CN103
CN102
CN104
CN105
CN106
CN112
CN113
CN116
CN105
CN3001
CN4002
CN4003
CN4001
CN1001
Hook
Hook
A
B
a
b
c
d
e
f
g
S1
S2
S3
S4
S5
S8
S9
S10
S11
S12
W1
1
2
3
4
5
6
7
8
9
10
11
13
13A
13B
13C
13D
14
15
16
18
20
21
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30
31
32
33
34
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36
37
38
39
41
42
43
44
45
46
47
48
Electrode surface
35-45mm
Note)
Valley fold
Electrode surface
Electrode surface
35-45mm
Electrode surface
DRAWING FROM DIRECTION A
Electrode surface
Plate
a
b
90û
a=b
CN106
CN116
CN104
DRAWING FROM DIRECTION B
FRONT BOARD
FRONT BKT 4
FFC 23
MAIN BOARD

Note)
To mount the FFC, do the following.
1) Insert the bent end of FFC ㉓, which has already been bent once so it can now be bent easily, underneath FRONT BKT ④.
2) Insert the other end of FFC ㉓ into the space on the MAIN BOARD to stabilize the position of FFC.

CABINET PARTS ASSEMBLY

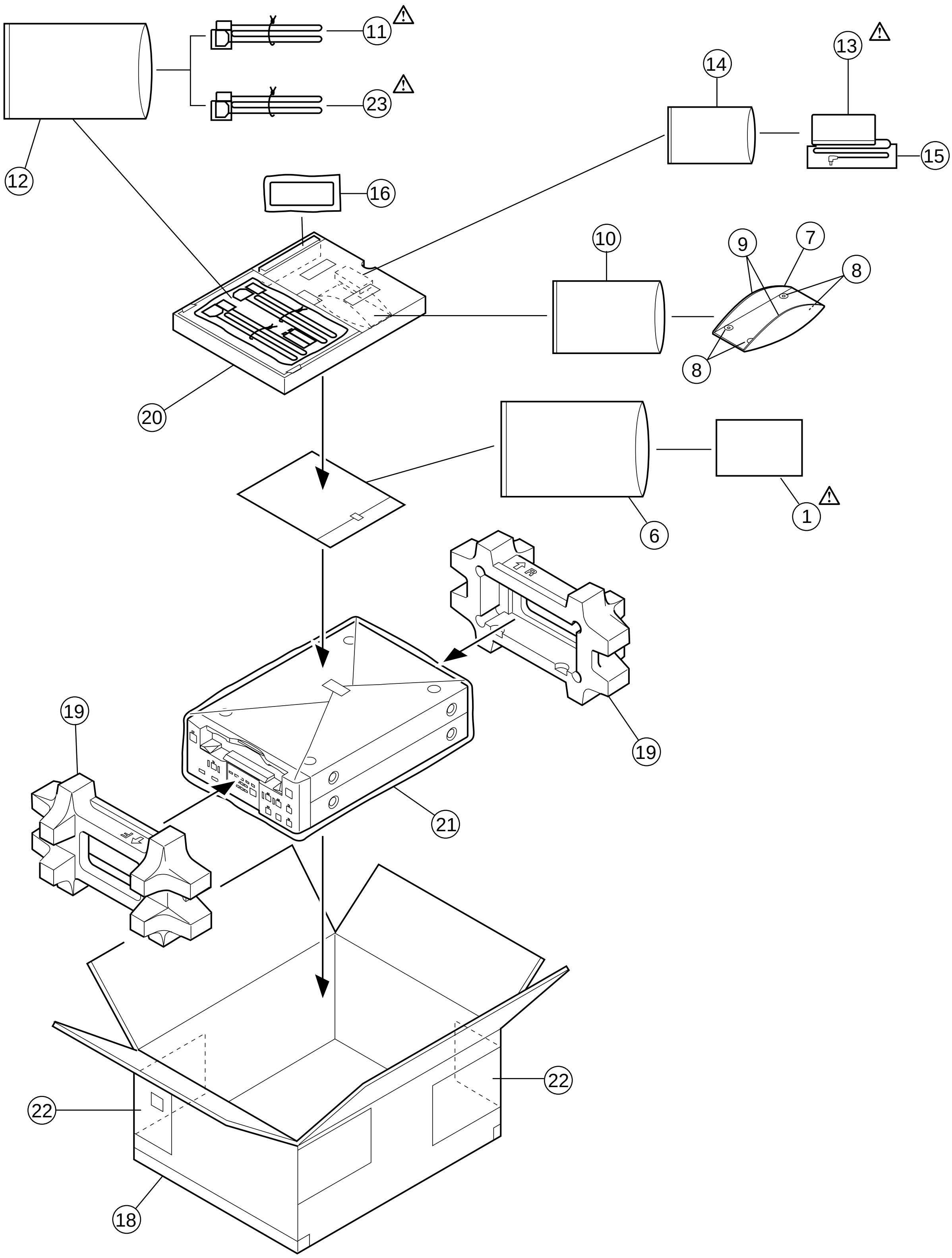
Components identified with the mark ⚠ have the special characterisitics for safety.
When replacing any of these components, use onlly the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	LL30318-001A	CENTER BRACKET	1	
2	LL20089-001A	SIDE FRAME (L)	1	
3	LL20090-001A	SIDE FRAME (R)	1	
4	LL30319-001A	FRONT BRACKET	1	
5	LL40366-001A	BRACKET	1	
6	LL40363-001A	KNOB	2	
7	LL20092-003A	BOTTOM COVER	1	
8	LL20092-004A	TOP COVER	1	
9	LL40390-003A	CAUTION LABEL	1	
10	SS45331	FOOT	4	
11	LL30338-011A	RATING LABEL	1	
13	PGS30680C	F.PANEL ASS'Y	1	
⚠ 13A	LL10078-002A	FRONT PANEL	1	
13B	LL20093-003A	KNOB(OPE)	4	
13C	LL30343-001B	INDICATOR	3	
13D	LL30344-002A	SHEET	1	
14	LL20091-003A	REAR COVER	1	
15	LL40364-001A	BRACKET	1	
16	SS45014-002	WIRE CLAMP	1	
⚠ 18	SC45456-001	CAUTION LABEL	1	
20	JN039-033601	WIRE	1	
21	WJJ0377-001A	WIRE	1	
22	JN027-063211	WIRE	1	
23,24	UQ105-4512AA	FFC WIRE	2	
25	UQ105-3013AA	FFC WIRE	1	
26	SCV2949-038	GASKET	1	
27	LL30314-001D	BRACKET (L)	1	
28	LL30315-001C	BRACKET (R)	1	
29	LL30316-001A	SUB BRACKET(L)	1	
30	LL30317-001A	SUB BRACKET(R)	1	
31	PRD30030-36	PAD	2	
32	LL40377-001A	SHIELD CASE	1	
33	UQ105-1305AA	FFC WIRE	1	
34	UQ105-2609AA	FFC WIRE	1	
35	UQ105-2004AA	FFC WIRE	1	
36	UQ105-1804AA	FFC WIRE	1	
37	UQ105-2004AA	FFC WIRE	1	
38	JJ027-081203	WIRE	1	
39	IEEE1394ID	LABEL	1	
41	LL40398-001A	SHEET(1)	6	
42	LL40399-001A	SHEET(2)	1	
43	LL40400-001A	SHEET	1	
44	LL30353-001A	INSULATOR	1	
45	PRD30030-164	PAD(SLIDE KNOB)	1	
46	PRD30030-147	PAD(DV TERMINAL)	1	
47	LL30354-001A	GUARD SHEET	1	
48	LL40401-001A	LABEL(CAUTION)	1	
S1	PRD44050-02	SCREW(MIC/DVCONN)	27	
S2	QYSDSTY3008X	SCREW	8	
S3	PGZ01821	SCREW	2	
S4	QYSDSF3008Z	SCREW	2	
S5	LL40389-001A	SCREW	1	
S8	QYSPSP3003Z	SCREW	4	
S9	PRD44099	SCREW	2	
S10	QYSDSP2004Z	SCREW	4	
S11	QYSPSPM2003Z	SCREW	2	
S12	QYSDSP2004Z	SCREW	2	
W1	QYWLS275306N	WASHER	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks

PACKING PARTS ASSEMBLY

Components identified with the mark ⚠ have the special characteristics for safety.
When replacing any of these components, use only the same type.


⑪ ⚠
⑬ ⚠
⑭
㉓ ⚠
⑮
⑫
⑯
⑩
⑨
⑦
⑧
⑧
⑳
① ⚠
⑥
⑲
⑲
㉑
㉒
㉒
⑱
R
F

PACKING PARTS ASSEMBLY

Components identified with the mark ⚠ have the special characterisitics for safety.
When replacing any of these components, use onlly the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
⚠ 1	LLT029-001A	OPERATING INSTRUCTIONS	1	FOR AG-DV2500P
⚠ 1	LLT030-001A	OPERATING INSTRUCTIONS	1	FOR AG-DV2500E
6	QPB02403404	POLYETHYLENE BAG	1	
7	LL10073-001A	STAND	1	
8	SS45331	FOOT	4	
9	LL40373-001A	PAD	2	
10	QPA01502005	POLYETHYLENE BAG	1	
⚠ 11	PE260-200-K2	POWER CODE	1	FOR AG-DV2500P
⚠ 11	PL240-200-K2	POWER CODE	1	FOR AG-DV2500E
12	QPB02002804	POLYETHYLENE BAG	1	
⚠ 13	QAL0481-001	AC ADAPTER	1	
14	QPA01202005	POLYETHYLENE BAG	1	
15	PUP40003-7	CUSHION	1	
16	LL30345-001A	REMOCON UNIT	1	
18	LL30322-001A	PACKING CASE	1	
19	LL20094-001A	CUSHION	2	
20	LL20096-001A	ACC. CASE	1	
21	QPA02503505	POLYETHYLENE BAG	1	
22	PRD3134-33	PACKING LABEL	1	FOR AG-DV2500P
22	PRD3134-34	PACKING LABEL	1	FOR AG-DV2500P
22	PRD3134-35	PACKING LABEL	1	FOR AG-DV2500E
22	PRD3134-36	PACKING LABEL	1	FOR AG-DV2500E
⚠ 23	PP160-200-K	POWER CODE	1	FOR AG-DV2500E

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks

ELECTRICAL REPLACEMENT PARTS LIST

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
■	LK1173B0C	MAIN P.C.BOARD	1	(RTL)
■	LK2129B0A1	FRONT P.C.BOARD	1	(RTL)
■	LK2129B0A2	DVCONN P.C.BOARD	1	(RTL)
■	LK2129B0A3	MIC P.C.BOARD	1	(RTL)
■	LK2125-D0B	DV/CPU P.C.BOARD	1	(RTL)
■	LK2124B0B	MDA/DC P.C.BOARD	1	(RTL)
■	LK2123A0A1	MECHA P.C.BOARD	1	(RTL)
■	LK2123B0A2	MECHA CONN P.C.BOARD	1	(RTL)
■	LK1173B0C	MAIN P.C.BOARD	1	(RTL)
BT2001	QAB0020-001	LI BATTERY	1	
C1,C2	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C3,C4	NEH90JM-107X	E.CAPACITOR 6.3V 100U	2	
C5,C6	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C7	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C8	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C9	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C10	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C12	NDC31HJ-150X	C.CAPACITOR 50V 15P	1	
C13	NDC31HJ-3R0X	C.CAPACITOR 50V 3P	1	
C14-16	NCB11AK-106X	C.CAPACITOR 10V 10U	3	
C17	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C18	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C19	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C20,21	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C22	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C23,24	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C25	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C26,27	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C28	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C29-34	NCB31CK-104X	C.CAPACITOR 16V 0.1U	6	
C35	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C36	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C37	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C38-40	NCB31CK-104X	C.CAPACITOR 16V 0.1U	3	
C41	NDC31HJ-102X	C.CAPACITOR 50V 1000P	1	
C42,43	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C44	NBE21CM-105X	T.CAPACITOR 16V 1U	1	
C45	NBE21CM-475X	T.CAPACITOR 16V 4.7U	1	
C46,47	NCB31CK-473X	C.CAPACITOR 16V 0.047U	2	
C48	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C49,50	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C51	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C52-54	NCB31HK-103X	C.CAPACITOR 50V 0.01U	3	
C55	NDC31HJ-102X	C.CAPACITOR 50V 1000U	1	
C56	NBE21CM-105X	T.CAPACITOR 16V 1U	1	
C57	NDC31HJ-102X	C.CAPACITOR 50V 1000U	1	
C58	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C59	NCB31CK-473X	C.CAPACITOR 16V 0.047U	1	
C60	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C61	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C62	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C63	NBE51AM-476X	T.CAPACITOR 10V 47U	1	
C64	NDC31HJ-150X	C.CAPACITOR 50V 15P	1	
C65	NDC31HJ-102X	C.CAPACITOR 50V 1000U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C66	NDC31HJ-8R0X	C.CAPACITOR 50V 8P	1	
C67,68	NDC31HJ-102X	C.CAPACITOR 50V 1000U	2	
C69	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C70	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C71-73	NCB31CK-104X	C.CAPACITOR 16V 0.1U	3	
C74,75	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C76	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C77,78	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C79	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C80	NDC31HJ-271X	C.CAPACITOR 50V 270P	1	
C81	NDC31HJ-121X	C.CAPACITOR 50V 120P	1	
C82	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C83	NDC31HJ-100X	C.CAPACITOR 50V 10P	1	
C84,85	NDC31HJ-120X	C.CAPACITOR 50V 12P	2	
C86	NDC31HJ-8R0X	C.CAPACITOR 50V 8P	1	
C88,89	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C90	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C91,92	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C93	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C94	NDC31HJ-100X	C.CAPACITOR 50V 10P	1	
C95	NDC31HJ-120X	C.CAPACITOR 50V 12P	1	
C96	NDC31HJ-8R0X	C.CAPACITOR 50V 8P	1	
C97	NDC31HJ-120X	C.CAPACITOR 50V 12P	1	
C98	NDC31HJ-100X	C.CAPACITOR 50V 10P	1	
C99,00	NDC31HJ-101X	C.CAPACITOR 50V 100P	2	
C101	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C102,03	NDC31HJ-150X	C.CAPACITOR 50V 15P	2	
C104	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C105	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C106	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C114	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C115	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C117	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C118,19	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C120	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C131,32	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C133-35	NCB11AK-106X	C.CAPACITOR 10V 10U	3	
C136	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C137	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C138	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C152	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C156	NDC31HJ-220X	C.CAPACITOR 50V 22P	1	
C170,71	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C203,04	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C205	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C206	NCB11AK-475X	C.CAPACITOR 10V 4.7U	1	
C207,08	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C209	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C210	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C211	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C212	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C213	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C214,15	NEH91EM-475X	E.CAPACITOR 25V 4.7U	2	
C216	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C217-19	NCB31HK-103X	C.CAPACITOR 50V 0.01U	3	
C221	NEH91EM-475X	E.CAPACITOR 25V 4.7U	1	
C222	NBE21CM-475X	T.CAPACITOR 16V 4.7U	1	
C229	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C233,34	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C235	NDC31HJ-101X	C.CAPACITOR 50V 100P	1	
C236	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C237	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C238	NDC31HJ-150X	C.CAPACITOR 50V 15P	1	
C239	NDC31HJ-8R0X	C.CAPACITOR 50V 8P	1	
C240	NDC31HJ-390X	C.CAPACITOR 50V 39P	1	
C241	NDC31HJ-330X	C.CAPACITOR 50V 33P	1	
C242	NCB11AK-106X	C.CAPACITOR 10V 10P	1	
C243	NDC31HJ-330X	C.CAPACITOR 50V 33P	1	
C245	NCB11AK-475X	C.CAPACITOR 10V 4.7P	1	
C248,49	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C253,54	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C255	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C256,57	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C258	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C259,60	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C261	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C262,63	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C264,65	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C267	NDC31HJ-150X	C.CAPACITOR 50V 15P	1	
C268	NDC31HJ-8R0X	C.CAPACITOR 50V 8P	1	
C269	NDC31HJ-390X	C.CAPACITOR 50V 39P	1	
C270	NDC31HJ-330X	C.CAPACITOR 50V 33P	1	
C271,72	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C275	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C277,78	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C279	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C280,81	NEH90JM-107X	E.CAPACITOR 6.3V 100U	2	
C282,83	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C284	NDC31HJ-220X	C.CAPACITOR 50V 22P	1	
C288	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C291	NDC31HJ-330X	C.CAPACITOR 50V 33P	1	
C292	NDC31HJ-390X	C.CAPACITOR 50V 39P	1	
C293	NDC31HJ-150X	C.CAPACITOR 50V 15P	1	
C294	NDC31HJ-8R0X	C.CAPACITOR 50V 8P	1	
C295	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C296,97	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C298	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C299,00	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C301,02	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C304-06	NCB31CK-104X	C.CAPACITOR 16V 0.1U	3	
C307	NDC31HJ-6R0X	C.CAPACITOR 50V 6P	1	
C308	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C312	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C313	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C314	NDC31HJ-330X	C.CAPACITOR 50V 33P	1	
C315	NDC31HJ-390X	C.CAPACITOR 50V 39P	1	
C316	NDC31HJ-120X	C.CAPACITOR 50V 12P	1	
C317	NDC31HJ-8R0X	C.CAPACITOR 50V 8P	1	
C319	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C320,21	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C322	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C323-25	NCB31HK-103X	C.CAPACITOR 50V 0.01U	3	
C326	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C327	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C328-31	NCB31CK-104X	C.CAPACITOR 16V 0.1U	4	
C333-36	NCB31CK-104X	C.CAPACITOR 16V 0.1U	4	
C338,39	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C340	NCB11AK-475X	C.CAPACITOR 10V 4.7U	1	
C341	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C342	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C343	NCB11AK-475X	C.CAPACITOR 10V 4.7U	1	
C344-48	NCB31CK-104X	C.CAPACITOR 16V 0.1U	5	
C349,50	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C351	NDC31HJ-120X	C.CAPACITOR 50V 12P	1	
C352	NDC31HJ-100X	C.CAPACITOR 50V 10P	1	
C353	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C354-58	NCB31CK-104X	C.CAPACITOR 16V 0.1U	5	
C359	NDC31HJ-8R0X	C.CAPACITOR 50V 8P	1	
C369	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C501	NDC31HG-331X	C.CAPACITOR 50V 330P	1	
C502	NDC31HJ-100X	C.CAPACITOR 50V 10P	1	
C503,04	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C603	NDC31HJ-271X	C.CAPACITOR 50V 270P	1	
C604	NDC31HJ-121X	C.CAPACITOR 50V 120P	1	
C605	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C606,07	NDC31HJ-102X	C.CAPACITOR 50V 1000P	2	
C609,10	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C611	NDC31HJ-220X	C.CAPACITOR 50V 22P	1	
C612-17	NCB31CK-104X	C.CAPACITOR 16V 0.1U	5	
C618	NDC31HJ-5R0X	C.CAPACITOR 50V 5P	1	
C619	NDC31HJ-470X	C.CAPACITOR 50V 47P	1	
C621	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1001	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1002	NEH91CM-226X	E.CAPACITOR 16V 22U	1	
C1003	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1004	NEH91CM-226X	E.CAPACITOR 16V 22U	1	
C1005	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1006	NEH91CM-226X	E.CAPACITOR 16V 22U	1	
C1007	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1008	NCB11AK-106X	C.CAPACITOR 10V 10U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C1009,10	NEH91CM-106X	E.CAPACITOR 16V 10U	2	
C1011	NEH91CM-476X	E.CAPACITOR 16V 47U	1	
C1012	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C1013-23	NEH91CM-106X	E.CAPACITOR 16V 10U	11	
C1024	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1025	NEH91HM-105X	E.CAPACITOR 50V 1U	1	
C1026	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C1027	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1028	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C1029	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1030	NCB31AK-224X	C.CAPACITOR 10V 0.22U	1	
C1031-36	NEH91CM-106X	E.CAPACITOR 16V 10U	6	
C1037,38	NCB21AK-105X	C.CAPACITOR 10V 1U	2	
C1039,40	NCB11CK-475X	C.CAPACITOR 16V 4.7U	2	
C1041	NCB21AK-105X	C.CAPACITOR 10V 1U	1	
C1042	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1051-55	NCB31CK-104X	C.CAPACITOR 16V 0.1U	5	
C1056-59	NEH91CM-106X	E.CAPACITOR 16V 10U	4	
C1060	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1061	NEH91EM-336X	E.CAPACITOR 25V 33U	1	
C2001-03	NCB31CK-473X	C.CAPACITOR 16V 0.047U	3	
C2004	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C2005,06	NCB31CK-473X	C.CAPACITOR 16V 0.047U	2	
C2021	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C2031-33	NCB31CK-473X	C.CAPACITOR 16V 0.047U	3	
C2060	NCB31CK-473X	C.CAPACITOR 16V 0.047U	1	
C2064	NCS31HJ-220X	C.CAPACITOR 50V 22P	1	
C2065	NCB31CK-473X	C.CAPACITOR 16V 0.047U	1	
C2081,82	NCB31CK-473X	C.CAPACITOR 16V 0.047U	2	
C2091	NCB31CK-473X	C.CAPACITOR 16V 0.047U	1	
C2092	NCS31HJ-240X	C.CAPACITOR 50V 24P	1	
C2101-03	NCB31CK-473X	C.CAPACITOR 16V 0.047U	3	
C2131	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C2132	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C2133	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C2134	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C2135	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C2136,37	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C2138	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C2139	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C2501	NCB31CK-473X	C.CAPACITOR 16V 0.147U	1	
C3001	NEH91EM-336X	E.CAPACITOR 25V 33U	1	
C3002	NEH91EM-106X	E.CAPACITOR 25V 10U	1	
C3003	NEH91EM-336X	E.CAPACITOR 25V 33U	1	
C3004,05	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C3006	NBE51CM-336X	T.CAPACITOR 16V 33U	1	
C3007	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C3010	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C3011	NEH91EM-106X	E.CAPACITOR 25V 10U	1	
C3012	NEH91EM-336X	E.CAPACITOR 25V 33U	1	
C3013,14	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C3015	NDC31HJ-221X	C.CAPACITOR 50V 220P	1	
C3016	NCB11EK-105X	C.CAPACITOR 25V 1U	1	
C3017	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C3018	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C3019	NCB11EK-105X	C.CAPACITOR 25V 1U	1	
C3020	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C3021,22	NCB11EK-105X	C.CAPACITOR 25V 1U	2	
C3023	NBE51CM-336X	T.CAPACITOR 16V 33U	1	
C3024	NCS31EJ-102X	C.CAPACITOR 25V 1000P	1	
C3025	NBE51CM-336X	T.CAPACITOR 16V 33U	1	
C3026	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C3027	NCB11EK-105X	C.CAPACITOR 25V 1U	1	
C3028	NBE51CM-336X	T.CAPACITOR 16V 33U	1	
C3029	NCS31EJ-102X	C.CAPACITOR 25V 1000P	1	
C3030	NBE51CM-336X	T.CAPACITOR 16V 33U	1	
C3031	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C3032	NBE51CM-336X	T.CAPACITOR 16V 33U	1	
C3033	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C3034	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C3035	NDC31HJ-221X	C.CAPACITOR 50V 220P	1	
C3036	NCB11EK-105X	C.CAPACITOR 25V 1U	1	
C3037	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C3038	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C3039	NCB11EK-105X	C.CAPACITOR 25V 1U	1	

Components identified with the mark ⚠ have the special characterisitics for safety.
When replacing any of these components, use onlly the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C3040	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C3041,42	NCB11EK-105X	C.CAPACITOR 25V 1U	2	
C3043-45	NCB11AK-106X	C.CAPACITOR 10V 10U	3	
C3046	NCS31EJ-102X	C.CAPACITOR 25V 1000P	1	
C3047-49	NCB11AK-106X	C.CAPACITOR 10V 10U	3	
C3050	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C3051	NCB11EK-105X	C.CAPACITOR 25V 1U	1	
C3052-54	NCB11AK-106X	C.CAPACITOR 10V 10U	3	
C3055	NDC31HJ-681X	C.CAPACITOR 50V 680P	1	
C3056-58	NCB11AK-106X	C.CAPACITOR 10V 10U	3	
C3059	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C4001-08	NDC31HJ-221X	C.CAPACITOR 50V 220P	8	
C4009-12	NCB31HK-103X	C.CAPACITOR 50V 0.01U	4	
CL1	PGZ01978	MINI CLAMP	1	
CN1001	QGA1201C2-03	CONNECTOR 3P	1	
CN3001	QGA2501C1-04	CONNECTOR 4P	1	
CN4001,02	QGF0508F2-45	CONNECTOR 45P	2	
CN4003	QGF0508F2-30	CONNECTOR 30P	1	
CN4004	QGB0502L1-40	CONNECTOR 40P	1	
CN4005	QGA1201C2-02	CONNECTOR 2P	1	
D1	DAN202U	DIODE	1	
D1001	DAN202U	DIODE	1	
D2002,03	MA741WK	DIODE	2	
D3001	SB140L-6395	DIODE	1	
D3006-08	SFPB-72-W	DIODE	3	
D3009	MA738	DIODE	1	
D4001-12	MA3091	DIODE	12	
D4013-20	MA3160-M	DIODE	8	
D4021-29	MA3091	DIODE	9	
D4031	MA3091	DIODE	1	
⚠ F3001	MFZ011-3R15X	FUSE	1	
FL1	QQR0454-001	FL FILTER	1	
IC1	TC4W53FU	IC	1	
IC2	MM1565AF	IC	1	
IC3	NJM79L05UA	IC	1	
IC4	CXD2064Q	IC	1	
IC5	M51271FP	IC	1	
IC6	SN74AHCT04PW	IC	1	C0JBAB000541
IC7	MM1565AF	IC	1	
IC8	NJM79L05UA	IC	1	
IC14	UPC78L05T	IC	1	
IC201	M62366GP	IC	1	
IC202	AN3916LF	IC	1	
IC204	PD6467GR-519	IC	1	
IC206	TC4W53FU	IC	1	
IC207	MM1571JN	IC	1	
IC208	JCP8029	IC	1	
IC209	AD817AR	IC	1	
IC211,12	AD817AR	IC	2	
IC213,14	SN74AHC574PW	IC	2	
IC215	N74AHC1GU04K	IC	1	
IC217	N74AHC245DGV	IC	1	
IC218	AD817AR	IC	1	
IC501	SN74LV221APW	IC	1	C0JBAM000100
IC502	SN74AHC74PW	IC	1	
IC601	C74VHC221AFT	IC	1	
IC602	TC7SET08F	IC	1	
IC603,04	TC7W53FU	IC	2	
IC1001	BA3314F	IC	1	
IC1002-04	M5218AFP	IC	3	
IC1005	AK4552VT	IC	1	
IC1006	AK4363VF	IC	1	
IC1007,08	M5218AFP	IC	2	
IC1009	BA6138F	IC	1	
IC1011,12	SN74HC161APW	IC	2	
IC1013	SN74AHC00PW	IC	1	
IC1014	SN74AHC04PW	IC	1	
IC1015	SN74AHC74PW	IC	1	
IC1016	SN74AHC1G00K	IC	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC1017	TC4W53FU	IC	1	
IC2002	RS5C314	IC	1	
IC2003	M95320-WMN6	IC	1	
IC2004	RN5VD26AA	IC	1	
IC2005	NJU7222U30	IC	1	
IC2006,07	N74LV165ADGV	IC	2	
IC2008	M66311FP	IC	1	
IC2009,10	BU4094BCFV	IC	2	
IC2011	N74AHCT125PW	IC	1	
IC2012	N74LV126ADGV	IC	1	
IC2013	DS8922M	IC	1	
IC2015,16	SN74AHC1G32K	IC	2	
IC2017	TC7W04F	IC	1	
IC2051	CD4053B	IC	1	
IC3001	NJM78M05DL1A	IC	1	
IC3002,03	BA9743AFV	IC	2	
J1	QNZ0593-001	JACK BOARD	1	
J2	QNZ0475-001	9 PIN CONNECTOR	1	
J3	QNS0037-001	3.5 JACK	1	
J4	QNA0033-001	DC JACK	1	
K202	NQR0200-005X	COIL	1	
K203	PGZ01994-601	FERRITE BEADS	1	
K204	NQR0200-005X	COIL	1	
K1001	NQR0200-005X	COIL	1	
K1002-04	PGZ01994-601	FERRITE BEADS	3	
K1005	NQR0200-005X	COIL	1	
K1006	PGZ01994-601	FERRITE BEADS	1	
K1007	NQR0200-005X	COIL	1	
K2001,02	NQR0265-001X	FERAITE BEAD	2	
K4001-03	NQR0200-005X	COIL	3	
K4005	NQR0200-005X	COIL	1	
L1-L8	NQL114K-220X	COIL 22UH	8	
L9	NQL024J-100X	COIL 10UH	1	
L10	NQL024J-5R6X	COIL 5.6UH	1	
L11	NQL024J-100X	COIL 10UH	1	
L12	NQL024J-150X	COIL 15UH	1	
L13	NQL024J-100X	COIL 10UH	1	
L14	NQL024J-5R6X	COIL 5.6UH	1	
L15	NQL024J-100X	COIL 10UH	1	
L16	NQL024J-150X	COIL 15UH	1	
L17	NQL024J-270X	COIL 27UH	1	
L18	NQL024J-180X	COIL 18UH	1	
L19	NQL114K-220X	COIL 22UH	1	
L201-03	NQL114K-220X	COIL 22UH	3	
L205-09	NQL114K-220X	COIL 22UH	5	
L210	NQL024J-330X	COIL 33UH	1	
L211	NQL024J-150X	COIL 15UH	1	
L212,13	NQL114K-220X	COIL 22UH	2	
L214	NQL024J-330X	COIL 33UH	1	
L215	NQL024J-150X	COIL 15UH	1	
L216-18	NQL114K-220X	COIL 22UH	3	
L220	NQL024J-150X	COIL 15UH	1	
L221	NQL024J-330X	COIL 33UH	1	
L222	NQL024J-150X	COIL 15UH	1	
L223	NQL024J-330X	COIL 33UH	1	
L224	NQL114K-220X	COIL 22UH	1	
L601,02	NQL024J-330X	COIL 33UH	2	
LC1001	NQR0436-001X	LC FILTER	1	
L3001-07	NQL25CM-330X	COIL 33UH	7	
L3008,09	NQL25CM-470X	COIL 47UH	2	
L4001-04	NQL024J-100X	COIL 10UH	4	
Q1	2SA1774	TRANSISTOR	1	
Q2,Q3	2SC4617	TRANSISTOR	2	
Q4	2SA1774	TRANSISTOR	1	
Q5-10	2SC4617	TRANSISTOR	6	
Q11	2SA1774	TRANSISTOR	1	
Q12	2SC4617	TRANSISTOR	1	
Q13	2SA1774	TRANSISTOR	1	
Q14-16	2SC4617	TRANSISTOR	3	
Q17	2SA1774	TRANSISTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q18	2SC4617	TRANSISTOR	1	
Q19	2SA1774	TRANSISTOR	1	
Q20,21	2SC4617	TRANSISTOR	2	
Q22	DTC124EUA	TRANSISTOR	1	
Q23-26	2SC4617	TRANSISTOR	4	
Q201	2SC4617	TRANSISTOR	1	
Q207,08	2SC4617	TRANSISTOR	2	
Q209	2SA1774	TRANSISTOR	1	
Q210-12	2SC4617	TRANSISTOR	3	
Q213	2SA1774	TRANSISTOR	1	
Q214,15	2SC4617	TRANSISTOR	2	
Q216	2SA1774	TRANSISTOR	1	
Q217	2SC4617	TRANSISTOR	1	
Q218	2SA1774	TRANSISTOR	1	
Q219	2SC4617	TRANSISTOR	1	
Q222	2SA1774	TRANSISTOR	1	
Q223	2SC4617	TRANSISTOR	1	
Q225	2SC4617	TRANSISTOR	1	
Q226	2SA1774	TRANSISTOR	1	
Q229	2SA1774	TRANSISTOR	1	
Q230	2SC4617	TRANSISTOR	1	
Q601,02	2SC4617	TRANSISTOR	2	
Q603,04	2SK665	FET	2	
Q605,06	2SA1774	TRANSISTOR	2	
Q1001,02	DTC124EUA	TRANSISTOR	2	
Q1003	DTA124EUA	TRANSISTOR	1	
Q1004,05	DTC323TU	TRANSISTOR	2	
Q1006	DTC124EUA	TRANSISTOR	1	
Q1007	DTA124EUA	TRANSISTOR	1	
Q1008,09	DTC323TU	TRANSISTOR	2	
Q1011	DTC124EUA	TRANSISTOR	1	
Q1012	DTA124EUA	TRANSISTOR	1	
Q1013,14	DTC323TU	TRANSISTOR	2	
Q1015	DTA124EUA	TRANSISTOR	1	
Q1016	DTC124EUA	TRANSISTOR	1	
Q1017	DTA124EUA	TRANSISTOR	1	
Q1018,19	DTC323TU	TRANSISTOR	2	
Q2001	DTC144EKA	TRANSISTOR	1	
Q2002	DTA144EKA	TRANSISTOR	1	
Q2003	DTC144EKA	TRANSISTOR	1	
Q2004	DTC144EUA	TRANSISTOR	1	
Q2006	DTC144EKA	TRANSISTOR	1	
Q3001	DTC114EUA	TRANSISTOR	1	
Q3002	2SD1628/FG/	TRANSISTOR	1	
Q3003,04	DTA114EUA	TRANSISTOR	2	
Q3005	DTC114EUA	TRANSISTOR	1	
Q3006	2SD1628/FG/	TRANSISTOR	1	
Q3007,08	2SJ484WY	FET	2	
Q3009,10	HAT1021R	TRANSISTOR	2	
Q3011	2SC2411K	TRANSISTOR	1	
Q3012	SA1036K/PQR/	TRANSISTOR	1	
Q3013	2SC2411K	TRANSISTOR	1	
Q3014	SA1036K/PQR/	TRANSISTOR	1	
Q3015	2SC2411K	TRANSISTOR	1	
Q3016	SA1036K/PQR/	TRANSISTOR	1	
Q3017	2SC2411K	TRANSISTOR	1	
Q3018	SA1036K/PQR/	TRANSISTOR	1	
R1	NRSA63D-331X	M.RESISTOR CH 1/16W 330	1	
R2	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R3	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	1	
R4	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R5	NRSA63D-122X	M.RESISTOR CH 1/16W 1.2K	1	
R6	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R7	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R8,R9	NRSA63D-151X	M.RESISTOR CH 1/16W 150	2	
R10	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R11	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R12	NRSA63J-273X	M.RESISTOR CH 1/16W 27K	1	
R13	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R14	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R15	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R16	NRSA63J-821X	M.RESISTOR CH 1/16W 820	1	
R18	NRSA63D-471X	M.RESISTOR CH 1/16W 470	1	
R19	NRSA63D-272X	M.RESISTOR CH 1/16W 2.7K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R20	NRSA63D-471X	M.RESISTOR CH 1/16W 470	1	
R21	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R22	NRSA63D-331X	M.RESISTOR CH 1/16W 330	1	
R23	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R24	NRSA63D-821X	M.RESISTOR CH 1/16W 820	1	
R25	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R26	NRSA63D-222X	M.RESISTOR CH 1/16W 2.2K	1	
R27	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R28	NRSA63D-122X	M.RESISTOR CH 1/16W 1.2K	1	
R29	NRSA63J-681X	M.RESISTOR CH 1/16W 680	1	
R30-32	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	3	
R33,34	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	2	
R35	NRSA63D-182X	M.RESISTOR CH 1/16W 1.8K	1	
R36,37	NRSA63J-221X	M.RESISTOR CH 1/16W 220	2	
R38	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R40	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R41	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R42	NRSA63D-392X	M.RESISTOR CH 1/16W 3.9K	1	
R43	NRSA63J-681X	M.RESISTOR CH 1/16W 680	1	
R44	NRSA63J-393X	M.RESISTOR CH 1/16W 39K	1	
R45	NRSA63J-221X	M.RESISTOR CH 1/16W 220	1	
R46	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R47	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R48	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R49	NRSA63J-561X	M.RESISTOR CH 1/16W 560	1	
R50	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R51	NRSA63J-561X	M.RESISTOR CH 1/16W 560	1	
R52	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R53	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R54	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R56	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R57	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R58	NRSA63D-331X	M.RESISTOR CH 1/16W 330	1	
R60,61	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	2	
R62	NRSA63D-331X	M.RESISTOR CH 1/16W 330	1	
R63	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R64	NRSA63D-681X	M.RESISTOR CH 1/16W 680	1	
R65	NRSA63D-331X	M.RESISTOR CH 1/16W 330	1	
R66	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R67	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R68	NRSA63D-182X	M.RESISTOR CH 1/16W 1.8K	1	
R69,70	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	2	
R71	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R72	NRSA63J-391X	M.RESISTOR CH 1/16W 390	1	
R73	NRSA63D-151X	M.RESISTOR CH 1/16W 150	1	
R74	NRSA63J-272X	M.RESISTOR CH 1/16W 2.7K	1	
R75	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R76	NRSA63J-562X	M.RESISTOR CH 1/16W 5.6K	1	
R77	NRSA63D-471X	M.RESISTOR CH 1/16W 470	1	
R78	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R79	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R80	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R81	NRSA63J-823X	M.RESISTOR CH 1/16W 82K	1	
R82	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R83	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R84	NRSA63J-125X	M.RESISTOR CH 1/16W 1.2M	1	
R85	NRSA63D-474X	M.RESISTOR CH 1/16W 470K	1	
R86	NRSA63J-183X	M.RESISTOR CH 1/16W 18K	1	
R87	NRSA63J-123X	M.RESISTOR CH 1/16W 12K	1	
R88	NRSA63J-153X	M.RESISTOR CH 1/16W 15K	1	
R89,90	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	2	
R91	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R92	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R93	NRSA63J-510X	M.RESISTOR CH 1/16W 51	1	
R94	NRSA63J-331X	M.RESISTOR CH 1/16W 330	1	
R95	NRSA63J-510X	M.RESISTOR CH 1/16W 51	1	
R96	NRSA63J-331X	M.RESISTOR CH 1/16W 330	1	
R97-99	NRSA63J-333X	M.RESISTOR CH 1/16W 33K	3	
R100,01	NRSA63J-153X	M.RESISTOR CH 1/16W 15K	2	
R102	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R103	NRSA63J-333X	M.RESISTOR CH 1/16W 33K	1	
R104	NRSA63J-391X	M.RESISTOR CH 1/16W 390	1	
R105	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R106	NRSA63J-681X	M.RESISTOR CH 1/16W 680	1	
R107	NRSA63J-331X	M.RESISTOR CH 1/16W 330	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R108	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R109	NRSA63D-182X	M.RESISTOR CH 1/16W 1.8K	1	
R110	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R111	NRSA63D-222X	M.RESISTOR CH 1/16W 2.2K	1	
R112	NRSA63D-152X	M.RESISTOR CH 1/16W 1.5K	1	
R113-19	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	7	
R180	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	1	
R203	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R204,05	NRSA63D-151X	M.RESISTOR CH 1/16W 150	2	
R206	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R207	NRSA63J-273X	M.RESISTOR CH 1/16W 27K	1	
R208	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R209,10	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	2	
R211	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R212	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R213	NRSA63J-684X	M.RESISTOR CH 1/16W 680K	1	
R214	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R215	NRSA63J-123X	M.RESISTOR CH 1/16W 12K	1	
R233	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R234-36	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	3	
R239,40	NRSA63J-101X	M.RESISTOR CH 1/16W 100	2	
R241	NRSA63D-181X	M.RESISTOR CH 1/16W 180	1	
R242	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R243	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R244	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R246	NRSA63D-751X	M.RESISTOR CH 1/16W 750	1	
R247	NRSA63D-222X	M.RESISTOR CH 1/16W 2.2K	1	
R248	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R249	NRSA63J-273X	M.RESISTOR CH 1/16W 27K	1	
R250	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R251	NRSA63D-821X	M.RESISTOR CH 1/16W 820	1	
R252	NRSA63D-331X	M.RESISTOR CH 1/16W 330	1	
R253	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R254	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R255	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R256	NRSA63D-471X	M.RESISTOR CH 1/16W 470	1	
R257	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R258	NRSA63D-122X	M.RESISTOR CH 1/16W 1.2K	1	
R259	NRSA63J-684X	M.RESISTOR CH 1/16W 680K	1	
R260	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R263	NRSA63J-333X	M.RESISTOR CH 1/16W 33K	1	
R264	NRSA63J-683X	M.RESISTOR CH 1/16W 68K	1	
R265,66	NRSA63D-151X	M.RESISTOR CH 1/16W 150	2	
R267	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R268	NRSA63J-273X	M.RESISTOR CH 1/16W 27K	1	
R269	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R270	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R271	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R272	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R273	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R274	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R275	NRSA63J-273X	M.RESISTOR CH 1/16W 27K	1	
R276	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R277	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R279	NRSA63D-751X	M.RESISTOR CH 1/16W 750	1	
R280	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R281	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R282	NRSA63J-393X	M.RESISTOR CH 1/16W 39K	1	
R283	NRSA63D-561X	M.RESISTOR CH 1/16W 560	1	
R284	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R285	NRSA63D-331X	M.RESISTOR CH 1/16W 330	1	
R286	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R287	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R288	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R289	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R290	NRSA63D-471X	M.RESISTOR CH 1/16W 470	1	
R291	NRSA63J-681X	M.RESISTOR CH 1/16W 680	1	
R292,93	NRSA63D-151X	M.RESISTOR CH 1/16W 150	2	
R294	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R295	NRSA63D-152X	M.RESISTOR CH 1/16W 1.5K	1	
R296	NRSA63D-561X	M.RESISTOR CH 1/16W 560	1	
R297	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R298	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R299,00	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	2	
R302	NRSA63J-751X	M.RESISTOR CH 1/16W 750	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R303	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R304	NRSA63J-221X	M.RESISTOR CH 1/16W 220	1	
R305,06	NRSA63D-151X	M.RESISTOR CH 1/16W 150	2	
R307,08	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	2	
R310,11	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	2	
R312,13	NRSA63D-151X	M.RESISTOR CH 1/16W 150	2	
R315	NRSA63D-302X	M.RESISTOR CH 1/16W 3K	1	
R316	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R317	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R318	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R323,24	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	2	
R326	NRSA63D-751X	M.RESISTOR CH 1/16W 750	1	
R327	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R328	NRSA63J-221X	M.RESISTOR CH 1/16W 220	1	
R329	NRSA63J-272X	M.RESISTOR CH 1/16W 2.7K	1	
R330	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R331	NRSA63J-821X	M.RESISTOR CH 1/16W 820	1	
R332	NRSA63J-221X	M.RESISTOR CH 1/16W 220	1	
R333	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R334-43	NRSA63J-330X	M.RESISTOR CH 1/16W 33	10	
R344,45	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	2	
R346,47	NRSA63J-100X	M.RESISTOR CH 1/16W 10	2	
R348	NRSA63J-272X	M.RESISTOR CH 1/16W 2.7K	1	
R349	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R350	NRSA63J-221X	M.RESISTOR CH 1/16W 220	1	
R351	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R352	NRSA63J-221X	M.RESISTOR CH 1/16W 220	1	
R353	NRSA63J-821X	M.RESISTOR CH 1/16W 820	1	
R354-57	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	4	
R359	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R360	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	1	
R362	NRSA63J-472X	M.RESISTOR CH 1/16W 4.7K	1	
R364	PGZ01994-601	FERRITE BEADS	1	
R365	NRSA63J-220X	M.RESISTOR CH 1/16W 22	1	
R371	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	1	
R372	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R373	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	1	
R374,75	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	2	
R376,77	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	2	
R378	NRSA63J-220X	M.RESISTOR CH 1/16W 22	1	
R379-89	NRSA63J-330X	M.RESISTOR CH 1/16W 33	11	
R390	PGZ01994-601	FERRITE BEADS	1	
R391	NRSA63J-220X	M.RESISTOR CH 1/16W 22	1	
R392	PGZ01994-601	FERRITE BEADS	1	
R393	NRSA63J-105X	M.RESISTOR CH 1/16W 1M	1	
R394	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R395	NRSA63J-330X	M.RESISTOR CH 1/16W 33	1	
R396	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R397	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R402	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R403	NRSA63D-182X	M.RESISTOR CH 1/16W 1.8K	1	
R404,05	NRSA63J-221X	M.RESISTOR CH 1/16W 220	2	
R406	NRSA63J-333X	M.RESISTOR CH 1/16W 33K	1	
R408	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R409	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R412	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R413	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R414	NRSA63D-302X	M.RESISTOR CH 1/16W 3K	1	
R419	NRSA63J-220X	M.RESISTOR CH 1/16W 22	1	
R421	NRSA63J-560X	M.RESISTOR CH 1/16W 56	1	
R501	NRSA63D-474X	M.RESISTOR CH 1/16W 470K	1	
R502	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R504	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R505	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R506	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R507	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R601,02	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	2	
R603	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R604	NRSA63J-821X	M.RESISTOR CH 1/16W 820	1	
R605	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R606	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R607	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	1	
R608	NRSA63J-472X	M.RESISTOR CH 1/16W 4.7K	1	
R609	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R610	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R611	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R612	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R613	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R614	NRSA63D-122X	M.RESISTOR CH 1/16W 1.2K	1	
R615	NRSA63D-392X	M.RESISTOR CH 1/16W 3.9K	1	
R616	NRSA63D-182X	M.RESISTOR CH 1/16W 1.8K	1	
R617	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R618	NRSA63D-821X	M.RESISTOR CH 1/16W 820	1	
R619	NRSA63D-681X	M.RESISTOR CH 1/16W 680	1	
R620	NRSA63D-201X	M.RESISTOR CH 1/16W 200	1	
R621	NRSA63D-162X	M.RESISTOR CH 1/16W 1.6K	1	
R625	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R1003	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R1004	NRSA63J-271X	M.RESISTOR CH 1/16W 270	1	
R1005,06	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	2	
R1007	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	1	
R1009	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R1010	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R1011	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R1012	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R1013	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R1014	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	1	
R1016	NRSA63D-822X	M.RESISTOR CH 1/16W 7.2K	1	
R1018	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R1019	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R1020	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R1021	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R1022	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R1023	NRSA63D-822X	M.RESISTOR CH 1/16W 8.2K	1	
R1025-28	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	4	
R1029-31	NRSA63J-560X	M.RESISTOR CH 1/16W 56	3	
R1032	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R1033	NRSA63J-560X	M.RESISTOR CH 1/16W 56	1	
R1034	PGZ01994-601	FERRITE BEADS	1	
R1035	NRSA63J-512X	M.RESISTOR CH 1/16W 5.1K	1	
R1036	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R1037	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R1038	NRSA63J-822X	M.RESISTOR CH 1/16W 8.2K	1	
R1039	NRSA63D-822X	M.RESISTOR CH 1/16W 8.2K	1	
R1040	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R1041	NRSA63J-682X	M.RESISTOR CH 1/16W 6.8K	1	
R1042	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R1043	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R1044	NRSA63J-822X	M.RESISTOR CH 1/16W 8.2K	1	
R1045	NRSA63D-822X	M.RESISTOR CH 1/16W 8.2K	1	
R1046	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R1047	NRSA63J-682X	M.RESISTOR CH 1/16W 6.8K	1	
R1048,49	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	2	
R1050	NRSA63J-272X	M.RESISTOR CH 1/16W 2.7K	1	
R1051	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R1052	NRSA63J-272X	M.RESISTOR CH 1/16W 2.7K	1	
R1053	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R1054,55	NRSA63J-154X	M.RESISTOR CH 1/16W 150K	2	
R1056	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R1057	NRSA63J-472X	M.RESISTOR CH 1/16W 4.7K	1	
R1058	NRSA63J-682X	M.RESISTOR CH 1/16W 6.8K	1	
R1059	NRSA63J-560X	M.RESISTOR CH 1/16W 56	1	
R1060,61	NRSA63D-681X	M.RESISTOR CH 1/16W 680	2	
R1062	NRSA63J-472X	M.RESISTOR CH 1/16W 4.7K	1	
R1063	NRSA63J-682X	M.RESISTOR CH 1/16W 6.8K	1	
R1064,65	NRSA63J-560X	M.RESISTOR CH 1/16W 56	2	
R1071,72	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	2	
R1073	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	1	
R1074	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R1075	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	1	
R1076	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R1077,78	NRSA63D-122X	M.RESISTOR CH 1/16W 1.2K	2	
R1079	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R1080	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R2001-12	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	12	
R2015	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R2016	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R2017-19	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	3	
R2021,22	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	2	
R2023	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R2024	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	1	
R2025,26	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	2	
R2031,32	NRSA63J-221X	M.RESISTOR CH 1/16W 220	2	
R2035	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R2036	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R2037,38	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	2	
R2039	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R2040,41	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	2	
R2042	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R2043	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R2044	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R2052-57	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	5	
R2059	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R2061	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R2062,63	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	2	
R2064-67	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	4	
R2068	NRSA63J-474X	M.RESISTOR CH 1/16W 470K	1	
R2070	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R2071	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R2072	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R2081,82	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	2	
R2083,84	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	2	
R2093	NRSA63J-471X	M.RESISTOR CH 1/16W 470	1	
R2094	NRSA63D-471X	M.RESISTOR CH 1/16W 470	1	
R2095	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R2102	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R2105	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R2106	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R2107-10	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	4	
R2112,13	NRSA63J-101X	M.RESISTOR CH 1/16W 100	2	
R2114	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R2115,16	NRSA63J-101X	M.RESISTOR CH 1/16W 100	2	
R2117,18	NRSA63D-101X	M.RESISTOR CH 1/16W 100	2	
R2119-22	NRSA63J-101X	M.RESISTOR CH 1/16W 100	4	
R2141-54	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	14	
R2203-06	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	4	
R2501,02	NRSA63J-101X	M.RESISTOR CH 1/16W 100	2	
R3001	NRSA63D-153X	M.RESISTOR CH 1/16W 15K	1	
R3002	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	1	
R3003	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R3004	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R3005	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R3006	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R3007	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R3008	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R3009	NRSA63D-123X	M.RESISTOR CH 1/16W 12K	1	
R3010	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R3011	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R3012	NRSA63D-273X	M.RESISTOR CH 1/16W 27K	1	
R3013-16	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	4	
R3017	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R3018	NRSA63D-123X	M.RESISTOR CH 1/16W 12K	1	
R3019	NRSA63D-273X	M.RESISTOR CH 1/16W 27K	1	
R3020	NRSA63D-471X	M.RESISTOR CH 1/16W 470	1	
R3021	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	1	
R3022	NRSA63D-182X	M.RESISTOR CH 1/16W 1.8K	1	
R3024	NRSA63D-182X	M.RESISTOR CH 1/16W 1.8K	1	
R3025	NRSA63D-122X	M.RESISTOR CH 1/16W 1.2K	1	
R3026	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R3027	NRSA63J-471X	M.RESISTOR CH 1/16W 470	1	
R3028	NRSA63D-392X	M.RESISTOR CH 1/16W 3.9K	1	
R3030	NRSA63D-392X	M.RESISTOR CH 1/16W 3.9K	1	
R3031	NRSA63D-562X	M.RESISTOR CH 1/16W 5.6K	1	
R3032	NRSA63D-153X	M.RESISTOR CH 1/16W 15K	1	
R3033	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R3034	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R3035	NRSA63D-273X	M.RESISTOR CH 1/16W 27K	1	
R3036	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R3037,38	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	2	
R3039	NRSA63D-153X	M.RESISTOR CH 1/16W 15K	1	
R3040	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R3041	NRSA63J-822X	M.RESISTOR CH 1/16W 8.2K	1	
R3042	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R3043	NRSA63D-273X	M.RESISTOR CH 1/16W 27K	1	
R3044	NRSA63J-471X	M.RESISTOR CH 1/16W 470	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3045	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	1	
R3046	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	1	
R3048	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R3049	NRSA63D-152X	M.RESISTOR CH 1/16W 1.5K	1	
R3050	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	1	
R3051	NRSA63D-471X	M.RESISTOR CH 1/16W 470	1	
R3052	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R3054	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R3056	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R3059	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R3069-72	NRSA63J-100X	M.RESISTOR CH 1/16W 10	4	
R4001-04	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	4	
R4011-14	NRSA63J-560X	M.RESISTOR CH 1/16W 56	4	
S4001	QSW0269-002	SLIDE SWITCH	1	
TH3003	NAD0023-003X	THERMISTOR	1	
TP1	NNZ0009-001X	TEST POINT	1	
TP10	NNZ0022-001X	TEST POINT	1	
TP201	NNZ0022-001X	TEST POINT	1	
TP204	NNZ0009-001X	TEST POINT	1	
VC601,02	EC2C01C	DIODE ARRAY	2	
X1	QAX0017-001	CRYSTAL OSCILLATOR	1	
X2	QAX0214-001	CRYSTAL OSCILLATOR	1	
X201	NAX0348-001X	CRYSTAL OSCILLATOR	1	
X2001	NAX0536-001X	CRYSTAL OSCILLATOR	1	
X2003	NAX0325-001X	CRYSTAL OSCILLATOR	1	
■	LK2129B0A1	FRONT P.C.BOARD	1	(RTL)
C1	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
CN1	QGF0508F1-45	CONNECTOR	1	
IC1	SBX3071-52	IC	1	
LD1	GL3CL8	LED	1	
LD2	SLR-342VR3F	LED	1	
LD3-D6	SLR-342MG3F	LED	4	
LD7	SLR-342VR3F	LED	1	
LD8-13	SLR-342MG3F	LED	6	
LD14	SLR-342VR3F	LED	1	
LD15-18	SLR-342MG3F	LED	4	
Q1,Q2	DTC124EUA	TRANSISTOR	2	
Q4-Q8	DTC124EUA	TRANSISTOR	5	
R1-19	NRSA63J-271X	M.RESISTOR CH 1/16W 270	19	
R20,21	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	2	
S1,S2	QSW0164-001	TACT SWITCH	2	
S3,S4	QSW0340-001	SLIDE SWITCH	2	
S5-11	QSW0164-001	TACT SWITCH	7	
■	LK2129B0A2	DVCONN P.C.BOARD	1	(RTL)
CN201	GA1201F2-06X	CONNECTOR	1	
J201	QNZ0097-001	JACK	1	
K201,02	NQR0200-005X	COIL	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R201-04	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	4	
■	LK2129B0A3	MIC P.C.BOARD	1	(RTL)
C301,02	NDC31HJ-221X	C.CAPACITOR 50V 220P	2	
CN301	QGA1201F2-03	CONNECTOR 3P	1	
D301,02	MA3091	DIODE	2	
J301	QNS0045-001	3.5 JACK	1	
K302	NQR0155-004X	FILTER	1	
L301	NQL024J-100X	COIL 10UH	1	
R301	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
■	LK2125-D0B	DV/CPU P.C.BOARD	1	(RTL)
C1-C6	NCB31CK-104X	C.CAPACITOR 16V 0.1U	6	
C7	NCB31CK-223X	C.CAPACITOR 16V 0.022U	1	
C8,C9	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C10	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C11,12	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C13	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C14,15	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C16	NBE41CM-106X	T.CAPACITOR 16V 10U	1	
C17,18	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C19	NBE41CM-106X	T.CAPACITOR 16V 10U	1	
C20-24	NCB31CK-104X	C.CAPACITOR 16V 0.1U	5	
C25	NDC31HJ-221X	C.CAPACITOR 50V 220P	1	
C26,27	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C28	NDC31HJ-102X	C.CAPACITOR 50V 1000P	1	
C29,30	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C31	NCB11CK-475X	C.CAPACITOR 16V 4.7U	1	
C32,33	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C34	NCB11CK-475X	C.CAPACITOR 16V 4.7U	1	
C35	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C101,02	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C103	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C104	NDC31HJ-151X	C.CAPACITOR 50V 150P	1	
C106	NCB30JK-105X	C.CAPACITOR 6.3V 1U	1	
C108	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C109	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C110-21	NCB31CK-104X	C.CAPACITOR 16V 0.1U	12	
C122,23	NDC31HJ-120X	C.CAPACITOR 50V 12P	2	
C124,25	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C126	NDC31HJ-390X	C.CAPACITOR 50V 39P	1	
C127	NDC31HJ-102X	C.CAPACITOR 50V 1000P	1	
C128,29	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C130	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C131	NCB11CK-475X	C.CAPACITOR 16V 4.7U	1	
C133	NDC31HJ-271X	C.CAPACITOR 50V 270P	1	
C135	NCB31CK-473X	C.CAPACITOR 16V 0.047U	1	
C136	NCB31HK-222X	C.CAPACITOR 50V 2200P	1	
C137,38	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C139	NCB31HK-102X	C.CAPACITOR 50V 1000P	1	
C140	NDC31HJ-390X	C.CAPACITOR 50V 39P	1	
C141	NCB31HK-102X	C.CAPACITOR 50V 1000P	1	
C142	NDC31HJ-390X	C.CAPACITOR 50V 39P	1	
C143,44	NDC31HJ-6R0X	C.CAPACITOR 50V 6P	2	
C145-52	NCB31CK-104X	C.CAPACITOR 16V 0.1U	8	
C154	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C155,56	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C301,02	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C303	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C304	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C305	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C306,07	NDC31HJ-150X	C.CAPACITOR 50V 15P	2	
C308	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C309,10	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C311	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C312	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C313	NDC31HJ-220X	C.CAPACITOR 50V 22P	1	
C314	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C401	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C402	NBE41CM-106X	T.CAPACITOR 16V 10U	1	
C403	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C406	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C407,08	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C409	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C410	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C411	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C412	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C413	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C414	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C415	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C416	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C419	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C420,21	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C422	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C423	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C424	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C425	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C426	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C427	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C428	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C429,30	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C432,33	NCB11CK-105X	C.CAPACITOR 16V 1U	2	
C434,35	NBE21AM-106X	T.CAPACITOR 10V 10U	2	
C436,37	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C438,39	NCB31CK-223X	C.CAPACITOR 16V 0.022U	2	
C442-45	NCB31CK-223X	C.CAPACITOR 16V 0.022U	4	
C446	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C447,48	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C449,50	NCB31HK-102X	C.CAPACITOR 50V 1000P	2	
C451	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C452	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C453	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
CN101	GA1201F2-06X	CONNECTOR 6P	1	
CN102	GF0508C1-30W	CONNECTOR 30P	1	
CN103	GF0508C1-45W	CONNECTOR 45P	1	
CN104	GF0508C1-13W	CONNECTOR 13P	1	
CN105	GF0508C1-26W	CONNECTOR 26P	1	
CN106	GF0508C1-20W	CONNECTOR 20P	1	
CN107	GF0503F4-08X	CONNECTOR 8P	1	
CN108	GA1501F2-08W	CONNECTOR 8P	1	
D101-03	EC2C01C	DIODE ARRAY	3	
D401-03	DAN202U	DIODE	3	
IC1	JCY0132	IC	1	
IC2,C3	TC7SH00FU	IC	2	
IC101	TLC2940IPW	IC	1	
IC102	JCY0136	IC	1	
IC103	JCY0152	IC	1	
IC104,05	SN74AHC574PW	IC	2	
IC106	N74AHC245DGV	IC	1	
IC107	TC7W53FU	IC	1	
IC301	M95320-WMN6	IC	1	
IC303	RN5VD26AA	IC	1	
IC402	MM1571JN	IC	1	
IC404	TC7W14FU	IC	1	
IC405	M62366GP	IC	1	
K1	NQR0265-001X	FERAITE BEAD	1	
K101	NQR0265-001X	FERAITE BEAD	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
K103	NQR0265-001X	FERAITE BEAD	1	
K401,02	NQR0265-001X	FERAITE BEAD	2	
L1-L4	NQL044K-100X	COIL 10UH	4	
L101	NQL024J-2R2X	COIL 2.2UH	1	
L102	NQR0276-001X	COIL	1	
L103	NQL024J-120X	COIL 12UH	1	
L104	NQL024J-100X	COIL 10UH	1	
L105	NQL044K-100X	COIL 10UH	1	
L402-06	NQL044K-100X	COIL 10UH	5	
L408	NQL044K-100X	COIL 10UH	1	
LC401-05	NQR0436-001X	LC FILTER	5	
Q102	DTC143EUA	TRANSISTOR	1	
Q402-05	DTA114EUA	TRANSISTOR	4	
Q406-09	UMC3N-W	TRANSISTOR	4	
Q410	DTA114EUA	TRANSISTOR	1	
Q411,12	2SA1577	TRANSISTOR	2	
R3	NRSA63J-471X	M.RESISTOR CH 1/16W 470	1	
R4	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R5	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R6-R9	NRSA63J-241X	M.RESISTOR CH 1/16W 240	4	
R10	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R11	NRSA63J-472X	M.RESISTOR CH 1/16W 4.7K	1	
R12	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R13	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R14	NRSA63D-560X	M.RESISTOR CH 1/16W 56	1	
R101	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R104	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R105,06	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	2	
R107	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R108	NRSA63J-221X	M.RESISTOR CH 1/16W 220	1	
R109	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R111	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R112	NRSA63J-151X	M.RESISTOR CH 1/16W 150	1	
R113	NRSA63J-302X	M.RESISTOR CH 1/16W 3K	1	
R114	NRSA63J-151X	M.RESISTOR CH 1/16W 150	1	
R115	NRSA63J-302X	M.RESISTOR CH 1/16W 3K	1	
R116,17	NRSA63J-220X	M.RESISTOR CH 1/16W 22	2	
R118	NRSA63J-105X	M.RESISTOR CH 1/16W 1M	1	
R119	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R120	NRSA63J-562X	M.RESISTOR CH 1/16W 5.6K	1	
R121	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R122,23	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	2	
R124	NRSA63J-224X	M.RESISTOR CH 1/16W 220K	1	
R126	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R127	NRSA63J-242X	M.RESISTOR CH 1/16W 2.4K	1	
R128,29	NRSA63J-392X	M.RESISTOR CH 1/16W 3.9K	2	
R130-33	NRSA63D-560X	M.RESISTOR CH 1/16W 56	4	
R134	NRSA63D-512X	M.RESISTOR CH 1/16W 5.1K	1	
R139	NRSA63J-330X	M.RESISTOR CH 1/16W 33	1	
R141	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R142	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R147	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R148	NRSA63J-681X	M.RESISTOR CH 1/16W 680	1	
R149	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R150	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R151,52	NRSA63J-224X	M.RESISTOR CH 1/16W 220K	2	
R153	NRSA63J-105X	M.RESISTOR CH 1/16W 1M	1	
R154	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R155-60	NRSA63J-560X	M.RESISTOR CH 1/16W 56	6	
R164-68	NRSA63J-560X	M.RESISTOR CH 1/16W 56	5	
R169,70	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	2	
R171-74	NRSA63J-330X	M.RESISTOR CH 1/16W 33	4	
R176	NRSA63J-105X	M.RESISTOR CH 1/16W 1M	1	
R178	NRSA63J-182X	M.RESISTOR CH 1/16W 75	1	
R179	NRSA63J-561X	M.RESISTOR CH 1/16W 560	1	
R181	NRSA63J-330X	M.RESISTOR CH 1/16W 33	1	
R183	NRSA63J-330X	M.RESISTOR CH 1/16W 33	1	
R301-19	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	19	
R320	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R321-28	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	8	
R329	NRSA63J-474X	M.RESISTOR CH 1/16W 470K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R330-34	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	5	
R335	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R336-52	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	17	
R357	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R358	NRSA63J-472X	M.RESISTOR CH 1/16W 4.7K	1	
R401,02	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	2	
R405	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R406-10	NRSA63J-101X	M.RESISTOR CH 1/16W 100	5	
R411	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	1	
R412,13	NRSA63J-101X	M.RESISTOR CH 1/16W 100	2	
R415-17	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	3	
R418-24	NRSA63J-101X	M.RESISTOR CH 1/16W 100	7	
R425-28	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	4	
R429-31	NRSA63J-101X	M.RESISTOR CH 1/16W 100	3	
R432	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	1	
R433-52	NRSA63J-101X	M.RESISTOR CH 1/16W 100	20	
R453	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R455	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R456	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R457	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R458	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R459,60	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	2	
R461	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R462	NRSA63J-125X	M.RESISTOR CH 1/16W 1.2M	1	
R463	NRSA63J-824X	M.RESISTOR CH 1/16W 820K	1	
R464	NRSA63J-275X	M.RESISTOR CH 1/16W 2.7M	1	
R465	NRSA63J-824X	M.RESISTOR CH 1/16W 820K	1	
R466	NRSA63J-275X	M.RESISTOR CH 1/16W 2.7M	1	
R467	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R468	NRSA63J-125X	M.RESISTOR CH 1/16W 1.2M	1	
R469	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R470-73	NRSA63J-101X	M.RESISTOR CH 1/16W 100	4	
R474-80	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	7	
R481,82	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	2	
R483-85	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	3	
R486-90	NRSA63J-101X	M.RESISTOR CH 1/16W 100	5	
R491	NRSA63J-330X	M.RESISTOR CH 1/16W 33	1	
R492	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R493	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R494	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R495	NRSA63D-273X	M.RESISTOR CH 1/16W 27K	1	
R501	NRSA63J-333X	M.RESISTOR CH 1/16W 33K	1	
RA101	NRZ0015-102X	COMBI.R-R 1K	1	
RA102,03	NRZ0015-103X	M.RESISTOR 10K	2	
RA104-07	NRZ0015-330X	COMBI.R-R 33	4	
RA401-03	NRZ0015-101X	COMBI.R-R 100	3	
TP1	NNZ0071-001X	TEST POINT	1	
X101	NAX0141-001X	CRYSTAL OSCILLATOR	1	
X102	NAX0206-001X	CRYSTAL OSCILLATOR	1	
X301	NAX0348-001X	CRYSTAL OSCILLATOR	1	
■	LK2124B0B	MDA/DC P.C.BOARD	1	(RTL)
C104	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C105	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C106	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C107	NCB31HK-152X	C.CAPACITOR 50V 1500P	1	
C108,09	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C120-25	NCB31HK-103X	C.CAPACITOR 50V 0.01U	6	
C126	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C127-29	NCB31AK-224X	C.CAPACITOR 10V 0.22U	3	
C130	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C131-33	NCB31CK-104X	C.CAPACITOR 16V 0.1U	3	
C134-36	NCB31CK-223X	C.CAPACITOR 16V 0.022U	3	
C137,38	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C139	NEH90JM-226X	E.CAPACITOR 6.3V 0.22U	1	
C140	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C142	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C143	NCB31CK-223X	C.CAPACITOR 16V 0.022U	1	
C144	NCB31CK-473X	C.CAPACITOR 16V 0.047U	1	
C145	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C147	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C148	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C149	NEH90JM-226X	E.CAPACITOR 6.3V 22U	1	
C156	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C157	NDC31HJ-102X	C.CAPACITOR 50V 1000P	1	
C158,59	NCB31CK-223X	C.CAPACITOR 16V 0.022U	2	
C160	NDC31HJ-471X	C.CAPACITOR 50V 470P	1	
C201	NCB31CK-223X	C.CAPACITOR 16V 0.022U	1	
C202	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C203	NCB31CK-223X	C.CAPACITOR 16V 0.022U	1	
C204	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C205	NCB31HK-153X	C.CAPACITOR 50V 0.015U	1	
C206	NCB31CK-273X	C.CAPACITOR 16V 0.027U	1	
C207	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C209	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C210	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C211-13	NCB31CK-223X	C.CAPACITOR 16V 0.022U	3	
C214-16	NCB31CK-104X	C.CAPACITOR 16V 0.1U	3	
C217	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C218,19	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C220	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C221	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C301	NEH91VM-106X	E.CAPACITOR 35V 10U	1	
C303	NDC31HJ-221X	C.CAPACITOR 50V 0.1U	1	
C304	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C305	NCB11CK-475X	C.CAPACITOR 16V 4.7U	1	
C306,07	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C308	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C309	NBE21DM-475X	T.CAPACITOR 20V 4.7U	1	
C311	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C312	NBE21DM-475X	T.CAPACITOR 20V 4.7U	1	
C313	NDC31HJ-102X	C.CAPACITOR 50V 1000P	1	
C314	NDC31HJ-221X	C.CAPACITOR 50V 220P	1	
C315	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C316	NCB11CK-475X	C.CAPACITOR 16V 4.7U	1	
C317,18	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C319	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C320	NCB11CK-475X	C.CAPACITOR 16V 4.7U	1	
C321	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C322	NCB11CK-475X	C.CAPACITOR 16V 4.7U	1	
C323	NDC31HJ-102X	C.CAPACITOR 50V 1000P	1	
C401	NDC31HJ-221X	C.CAPACITOR 50V 220P	1	
C402	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C403	NCB11CK-475X	C.CAPACITOR 16V 4.7U	1	
C404	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C405	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C407	NCF11CZ-225X	C.CAPACITOR 16V 2.2U	1	
C408	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C409	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C410-12	NCB10JK-106X	C.CAPACITOR 6.3V 10U	3	
C413	NCB31AK-224X	C.CAPACITOR 10V 0.22U	1	
C414,15	NCB10JK-106X	C.CAPACITOR 6.3V 10U	2	
C416	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C417-19	NBE21AM-106X	T.CAPACITOR 10V 10U	3	
C420	NCB31AK-224X	C.CAPACITOR 10V 0.22U	1	
C421	NCB10JK-106X	C.CAPACITOR 6.3V 10U	1	
C422	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C423,24	NBE21AM-106X	T.CAPACITOR 10V 10U	2	
C425	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C426,27	NBE21AM-106X	T.CAPACITOR 10V 10U	2	
CN105	GF0508C1-26W	CONNECTOR 26P	1	
CN108	GA1501C2-08W	CONNECTOR 8P	1	
CN111	SS30662-004	CONNECTOR 4P	1	
CN112	GF0508C1-12W	CONNECTOR 12P	1	
CN113	GF0508C1-18W	CONNECTOR 18P	1	
CN114	GA1201C2-02X	CONNECTOR 2P	1	
CN116	GF0508C1-20W	CONNECTOR 20P	1	
CN117	GA1501C2-02W	CONNECTOR 2P	1	
CN119	GA1201C2-02X	CONNECTOR 2P	1	

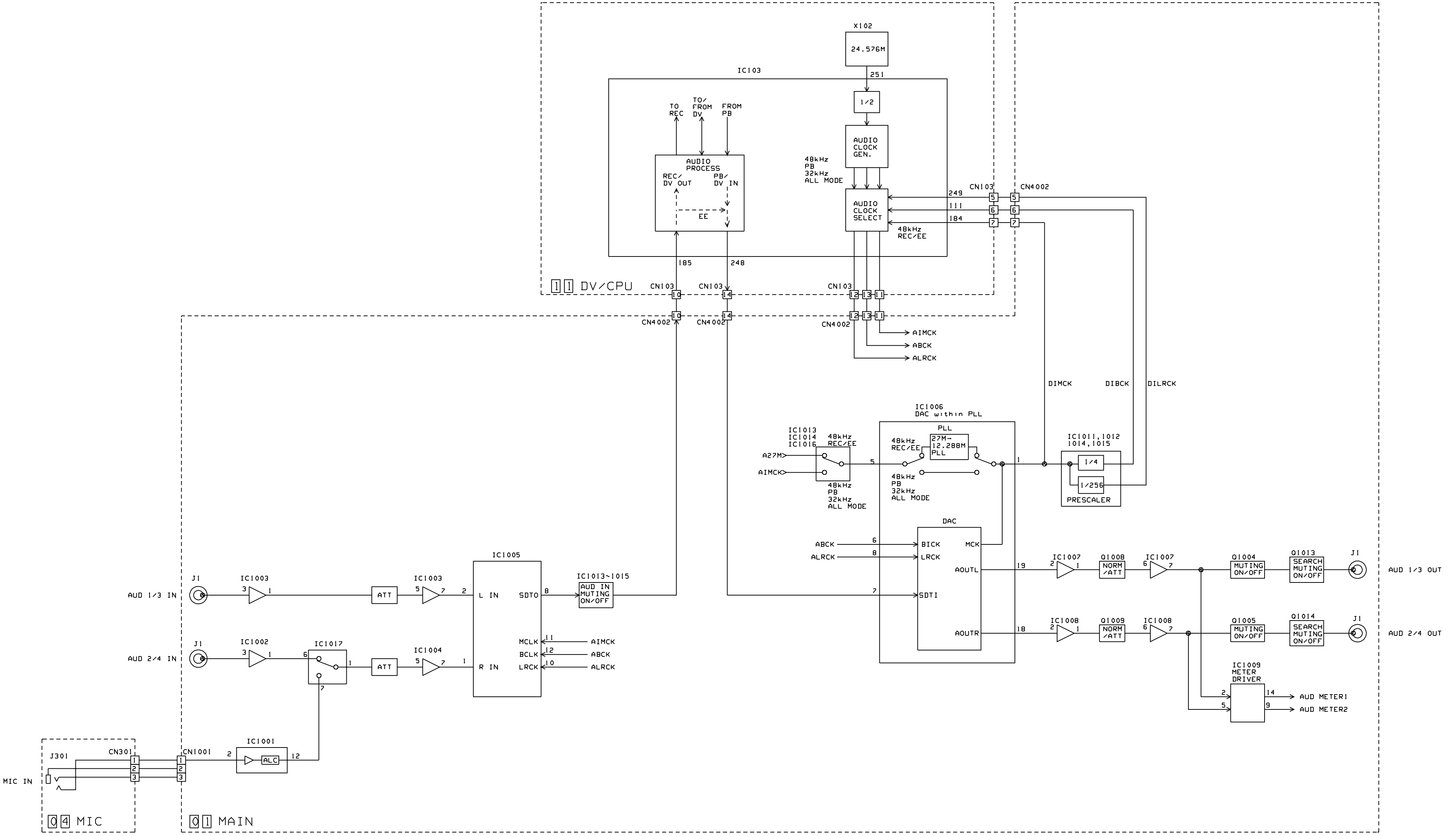
Components identified with the mark ⚠ have the special characterisitics for safety.
When replacing any of these components, use onlly the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
D11	DAP222	DIODE	1	
D12	MA3110L	ZENER DIODE	1	
D13	DAP222	DIODE	1	
D22	MA3020	ZENER DIODE	1	
D31,32	SFPB-72-W	DIODE	2	
D33	DAP202U	DIODE	1	
D34	SFPB-72-W	DIODE	1	
D35	DA204U	DIODE	1	
D36	SFPB-72-W	DIODE	1	
D37	DAP202U	DIODE	1	
D41,42	SFPB-72-W	DIODE	2	
⚠ F1	NMFZ011-1R6X	FUSE	1	
IC11	BA6865KV	IC	1	
IC12	BA6417F	IC	1	
IC21	BA6862FS	IC	1	
IC22	BA10358F-XE	IC	1	
IC23	BA10393F	IC	1	
IC31,32	BA9743AFV	IC	2	
IC41	BA9743AFV	IC	1	
IC42	MM1572KN	IC	1	
IC43	MM1572FN	IC	1	
K1	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
L21	NQL24CN-220X	COIL 22UH	1	
L31	NQL42EM-220X	COIL 22UH	1	
L33-36	NQL24CN-220X	COIL 22UH	4	
L41-45	NQL24CN-220X	COIL 22UH	5	
LC11	NQR0436-001X	LC FILTER	1	
Q11-13	2SB1302/ST/	TRANSISTOR	3	
Q14,15	2SC4081	TRANSISTOR	2	
Q21-23	2SB1302/ST/	TRANSISTOR	3	
Q31-33	2SJ484WY	FET	3	
Q34	DTC124EUA	TRANSISTOR	1	
Q35	2SB1302/ST/	TRANSISTOR	1	
Q36	2SJ484WY	FET	1	
Q37	DTA114EUA	TRANSISTOR	1	
Q41,42	2SJ484WY	FET	2	
Q43	2SC4097/QR/	TRANSISTOR	1	
Q44	2SA1577	TRANSISTOR	1	
Q45	2SC4097/QR/	TRANSISTOR	1	
Q46	2SA1577	TRANSISTOR	1	
Q51	2SC4097/QR/	TRANSISTOR	1	
Q52	2SA1577	TRANSISTOR	1	
Q53	2SC4097/QR/	TRANSISTOR	1	
Q54	2SA1577	TRANSISTOR	1	
Q55	2SC4097/QR/	TRANSISTOR	1	
Q56	2SA1577	TRANSISTOR	1	
Q57	2SC4097/QR/	TRANSISTOR	1	
Q58	2SA1577	TRANSISTOR	1	
QA11	BA6254FS	TRANSIST.ARRAY	1	
R101	NRSA63J-155X	M.RESISTOR CH 1/16W 1.5M	1	
R102	NRSA63J-274X	M.RESISTOR CH 1/16W 270K	1	
R103	NRSA63J-681X	M.RESISTOR CH 1/16W 680	1	
R104	NRSA63J-272X	M.RESISTOR CH 1/16W 2.7K	1	
R105	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R106-09	NRSA63J-511X	M.RESISTOR CH 1/16W 510	4	
R110	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R111	NRV142F-R22X	M.RESISTOR CH 1/4W 0.22	1	
R112	NRS12BK-R68X	M.RESISTOR CH 1/2W 0.68	1	
R113	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R114	NRSA63J-154X	M.RESISTOR CH 1/16W 150K	1	
R115	NRSA63J-202X	M.RESISTOR CH 1/16W 2K	1	
R116	NRSA63J-474X	M.RESISTOR CH 1/16W 470K	1	
R117,18	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	2	
R120	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R121	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	1	
R122	NRSA63J-203X	M.RESISTOR CH 1/16W 20K	1	
R123	NRSA63J-393X	M.RESISTOR CH 1/16W 39K	1	

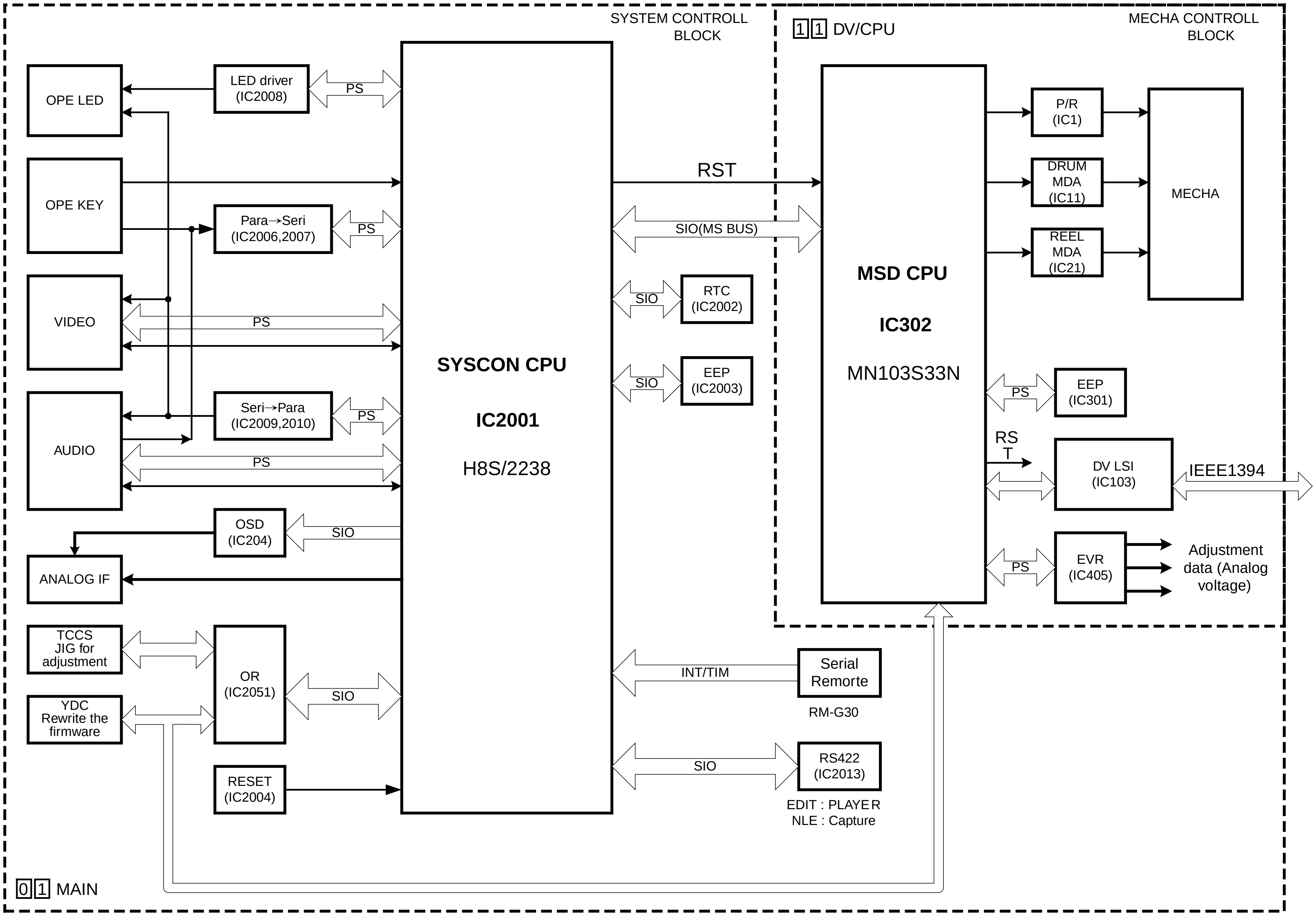
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R124,25	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	2	
R126	NRSA63J-274X	M.RESISTOR CH 1/16W 270K	1	
R127	NRSA63J-272X	M.RESISTOR CH 1/16W 2.7K	1	
R128	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R131	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R132	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R133	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R134	NRSA63J-472X	M.RESISTOR CH 1/16W 4.7K	1	
R135,36	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	2	
R138	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R139	NRS12BK-R68X	M.RESISTOR CH 1/2W 0.68	1	
R201	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R202	NRSA63J-474X	M.RESISTOR CH 1/16W 470K	1	
R203	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R204	NRSA63J-124X	M.RESISTOR CH 1/16W 120K	1	
R205	NRSA63J-153X	M.RESISTOR CH 1/16W 15K	1	
R206	NRSA63J-154X	M.RESISTOR CH 1/16W 150K	1	
R207	NRSA63J-272X	M.RESISTOR CH 1/16W 2.7K	1	
R208	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R209,10	NRS144J-1R0X	M.RESISTOR CH 1/4W 1	2	
R211	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R212	NRSA63J-393X	M.RESISTOR CH 1/16W 39K	1	
R213	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R214	NRSA63J-273X	M.RESISTOR CH 1/16W 27K	1	
R215	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R216	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R217,18	NRSA63J-121X	M.RESISTOR CH 1/16W 120	2	
R219	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R220	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R221	NRSA63J-474X	M.RESISTOR CH 1/16W 470K	1	
R222-24	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	3	
R225	NRSA63J-563X	M.RESISTOR CH 1/16W 56K	1	
R226-30	NRSA63J-105X	M.RESISTOR CH 1/16W 1M	5	
R301	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R302	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R303,04	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	2	
R305	NRSA63J-333X	M.RESISTOR CH 1/16W 33K	1	
R306	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R307	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R308	NRSA63J-683X	M.RESISTOR CH 1/16W 68K	1	
R309	NRSA63J-562X	M.RESISTOR CH 1/16W 5.6K	1	
R310	NRSA63J-153X	M.RESISTOR CH 1/16W 15K	1	
R311	NRSA63J-393X	M.RESISTOR CH 1/16W 39K	1	
R312	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R313	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R314	NRSA63J-153X	M.RESISTOR CH 1/16W 15K	1	
R315	NRSA63J-562X	M.RESISTOR CH 1/16W 5.6K	1	
R316	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R317	NRSA63J-823X	M.RESISTOR CH 1/16W 82K	1	
R318,19	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	2	
R320	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R321,22	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	2	
R323	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R324	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R325	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	1	
R326	NRSA63J-472X	M.RESISTOR CH 1/16W 4.7K	1	
R327	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R328	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R329	NRSA63J-563X	M.RESISTOR CH 1/16W 56K	1	
R330	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R331	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	1	
R332	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R333	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R334	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R335	NRSA63J-333X	M.RESISTOR CH 1/16W 33K	1	
R336	NRSA63J-562X	M.RESISTOR CH 1/16W 5.6K	1	
R337	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R338	NRSA63J-333X	M.RESISTOR CH 1/16W 33K	1	
R339	NRSA63J-563X	M.RESISTOR CH 1/16W 56K	1	
R340	NRSA63J-823X	M.RESISTOR CH 1/16W 82K	1	
R341	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R342-45	NRSA63J-100X	M.RESISTOR CH 1/16W 10	4	
R346	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R351	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R401	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R402,03	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	2	
R404	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	1	
R405	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R406,07	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	2	
R408	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R409	NRSA63D-273X	M.RESISTOR CH 1/16W 27K	1	
R410	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R411	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R412,13	NRSA63D-182X	M.RESISTOR CH 1/16W 1.8K	2	
R414	NRSA63D-122X	M.RESISTOR CH 1/16W 1.2K	1	
R415	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R416	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R417	NRSA63D-562X	M.RESISTOR CH 1/16W 5.6K	1	
R418	NRSA63D-272X	M.RESISTOR CH 1/16W 2.7K	1	
R419	NRSA63J-330X	M.RESISTOR CH 1/16W 33	1	
R420,21	NRSA63J-100X	M.RESISTOR CH 1/16W 10	2	
■	LK2123A0A1	MECHA P.C.BOARD	1	(RTL)
CN104	GF0508F1-13X	CONNECTOR 13P	1	
CN106	GF0508F1-20X	CONNECTOR 20P	1	
CN116	GF0508F1-20X	CONNECTOR 20P	1	
CN124	GF0508F1-18X	CONNECTOR 18P	1	
CN125	GF0508F2-10X	CONNECTOR 10P	1	
CN128	GA1201C2-02X	CONNECTOR 2P	1	
S1	NSW0171-001	PUSH SWITCH	1	
S2,S3	NSW0170-001	PUSH SWITCH	2	
TH1	NAD0002-223X	THERMISTOR	1	
VR1	NVQ0006-B14X	V.RESISTOR 10K	1	
■	LK2123B0A2	MECHA CONN P.C.BOARD	1	(RTL)
CN100	GF0508F1-11X	CONNECTOR 11P	1	
CN112	GF0508C1-12W	CONNECTOR 12P	1	

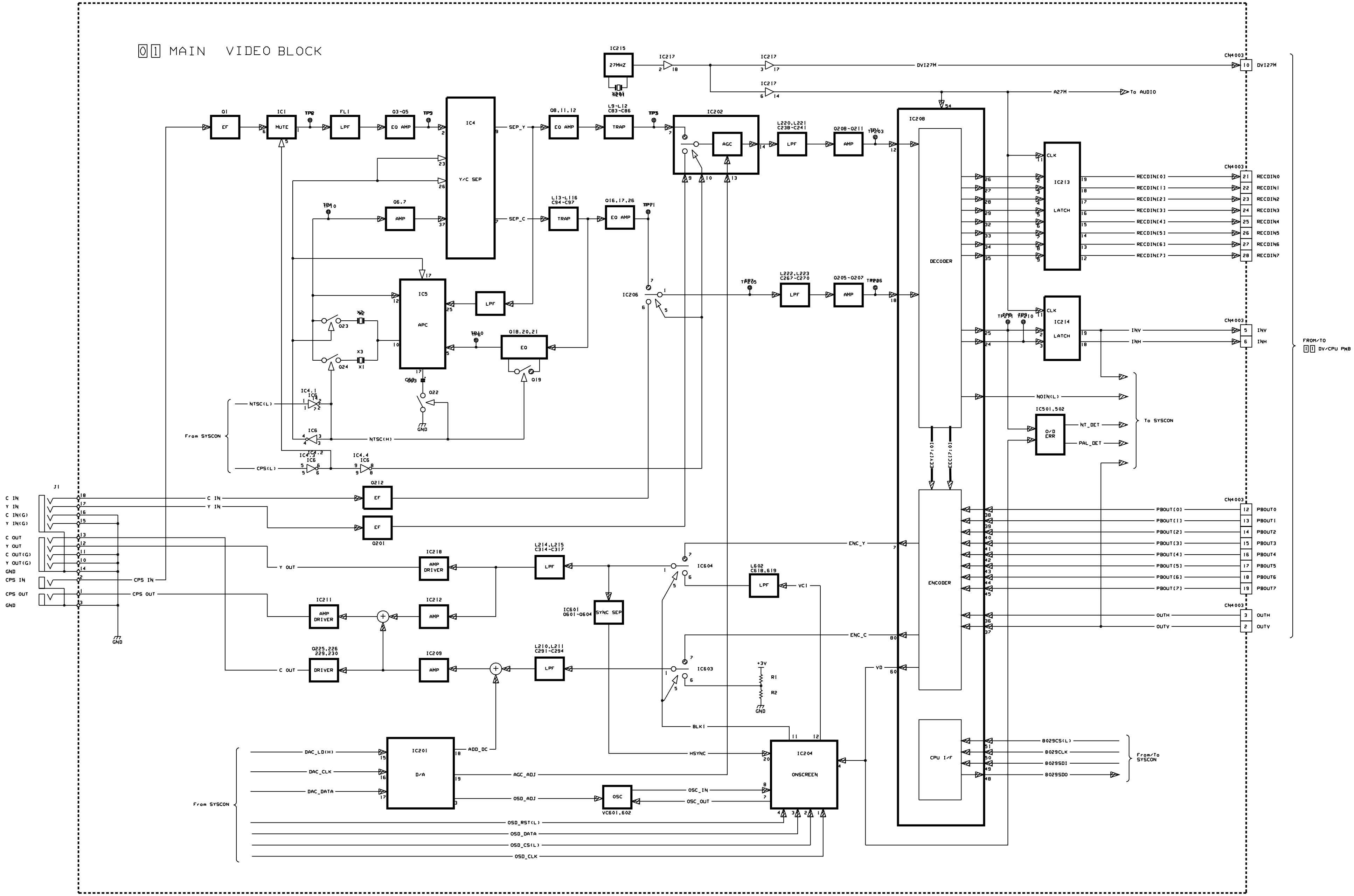
5.4 AUDIO BLOCK DIAGRAM


X102
24.576M
251
IC103
1/2
AUDIO CLOCK GEN.
TO REC
TO/ FROM DV
FROM PB
AUDIO PROCESS
REC/ DV OUT
PB/ DV IN
EE
48kHz PB 32kHz ALL MODE
AUDIO CLOCK SELECT
48kHz REC/EE
CN103
CN4002
249
111
184
5
6
7
185
248
11 DV/CPU
CN103
10
14
12
13
11
CN4002
AIMCK
ABCK
ALRCK
DIMCK
DIBCK
DILRCK
IC1006
DAC within PLL
PLL
27M→ 12.288M PLL
48kHz REC/EE
48kHz PB 32kHz ALL MODE
IC1013
IC1014
IC1016
48kHz REC/EE
A27M
AIMCK
48kHz PB 32kHz ALL MODE
IC1011,1012
1014,1015
1/4
1/256
PRESCALER
DAC
ABCK
ALRCK
BICK
LRCK
MCK
AOUTL
SDTI
AOUTR
19
18
IC1007
Q1008
NORM /ATT
Q1004
MUTING ON/OFF
Q1013
SEARCH MUTING ON/OFF
J1
AUD 1/3 OUT
IC1008
Q1009
NORM /ATT
Q1005
MUTING ON/OFF
Q1014
SEARCH MUTING ON/OFF
J1
AUD 2/4 OUT
IC1009
METER DRIVER
AUD METER1
AUD METER2
AUD 1/3 IN
J1
IC1003
ATT
IC1005
L IN
SDTO
IC1013~1015
AUD IN MUTING ON/OFF
AUD 2/4 IN
IC1002
IC1017
IC1004
R IN
MCLK
BCLK
LRCK
AIMCK
ABCK
ALRCK
J301
CN301
MIC IN
CN1001
IC1001
ALC
04 MIC
01 MAIN

5.2 SYSTEM CONTROL BLOCK DIAGRAM

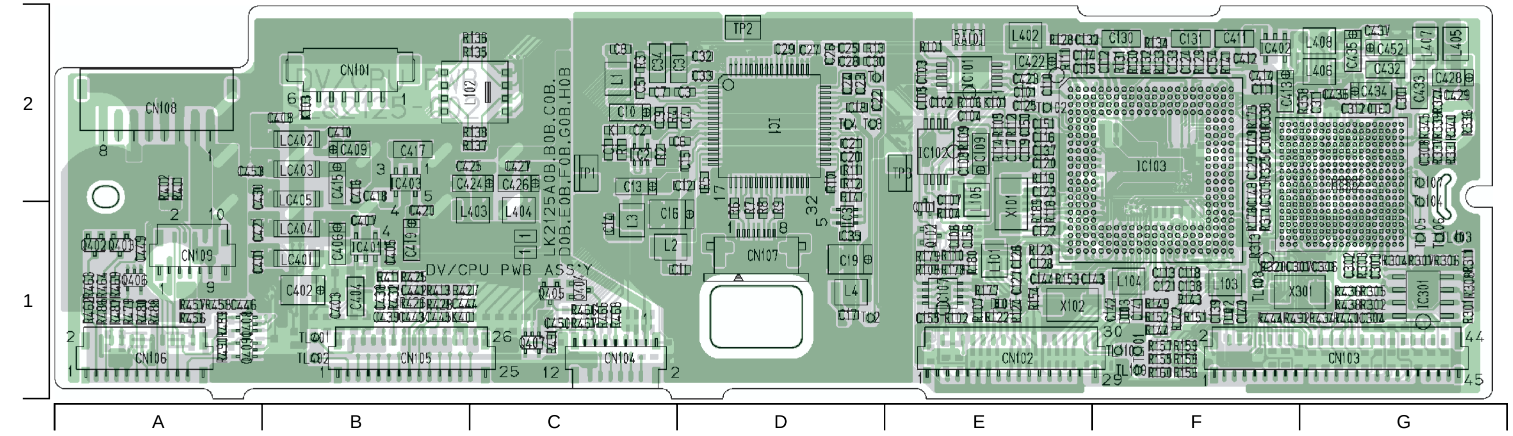

SYSTEM CONTROLL BLOCK
1 1 DV/CPU
MECHA CONTROLL BLOCK
OPE LED
LED driver (IC2008)
PS
OPE KEY
Para→Seri (IC2006,2007)
PS
VIDEO
PS
Seri→Para (IC2009,2010)
PS
AUDIO
PS
OSD (IC204)
SIO
ANALOG IF
TCCS JIG for adjustment
YDC Rewrite the firmware
OR (IC2051)
SIO
RESET (IC2004)
SYSCON CPU
IC2001
H8S/2238
RST
SIO(MS BUS)
SIO
RTC (IC2002)
SIO
EEP (IC2003)
INT/TIM
Serial Remorte
RM-G30
SIO
RS422 (IC2013)
EDIT : PLAYER
NLE : Capture
MSD CPU
IC302
MN103S33N
P/R (IC1)
DRUM MDA (IC11)
REEL MDA (IC21)
MECHA
PS
EEP (IC301)
RST
DV LSI (IC103)
IEEE1394
PS
EVR (IC405)
Adjustment data (Analog voltage)
0 1 MAIN

5.3 VIDEO BLOCK DIAGRAM

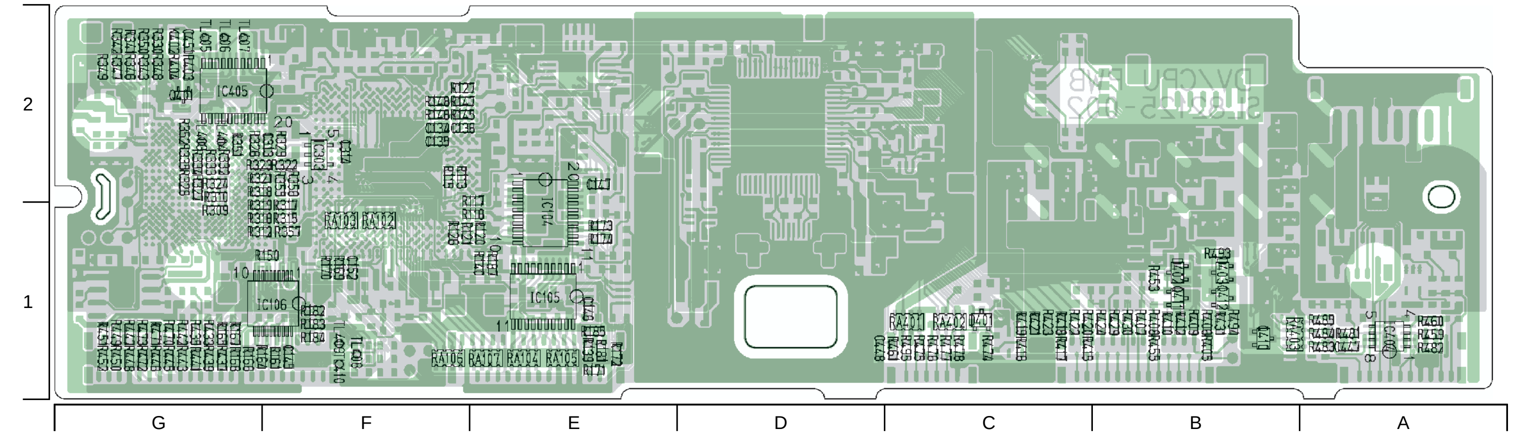

01 MAIN VIDEO BLOCK
Q1
EF
IC1
MUTE
TP8
FL1
LPF
Q3-Q5
EQ AMP
TP9
IC4
Y/C SEP
SEP_Y
SEP_C
Q8,11,12
EQ AMP
L9-L12
C83-C86
TRAP
TP3
IC202
AGC
L13-L116
C94-C97
TRAP
Q16,17,26
EQ AMP
TP71
Q6,7
AMP
TP10
IC5
APC
LPF
Q18,20,21
EQ
Q19
Q23
Q24
X2
X3
X1
Q22
GND
IC4,1
IC5
IC6
NTSC(L)
NTSC(H)
From SYSCON
CPS(L)
IC4,2
IC4,4
IC215
27MHZ
X201
IC217
DVI27M
A27M
To AUDIO
L220,L221
C238-C241
LPF
Q208-Q211
AMP
TP203
IC206
TP205
L222,L223
C267-C270
LPF
Q205-Q207
AMP
TP206
IC208
DECODER
EEY[7:0]
ECC[7:0]
ENCODER
CPU I/F
IC213
LATCH
CLK
IC214
LATCH
CN4003
DVI27M
RECDIN[0]
RECDIN[1]
RECDIN[2]
RECDIN[3]
RECDIN[4]
RECDIN[5]
RECDIN[6]
RECDIN[7]
RECDIN0
RECDIN1
RECDIN2
RECDIN3
RECDIN4
RECDIN5
RECDIN6
RECDIN7
TP211
TP210
INV
INH
FROM/TO
01 DV/CPU PWB
NOIN(L)
IC501,502
D/D
ERR
NT_DET
PAL_DET
To SYSCON
PBOUT[0]
PBOUT[1]
PBOUT[2]
PBOUT[3]
PBOUT[4]
PBOUT[5]
PBOUT[6]
PBOUT[7]
PBOUT0
PBOUT1
PBOUT2
PBOUT3
PBOUT4
PBOUT5
PBOUT6
PBOUT7
OUTH
OUTV
B029CS(L)
B029CLK
B029SDI
B029SDO
From/To
SYSCON
J1
C IN
Y IN
C IN(G)
Y IN(G)
C OUT
Y OUT
C OUT(G)
Y OUT(G)
GND
CPS IN
CPS OUT
GND
Q212
EF
Q201
EF
IC218
AMP
DRIVER
Y OUT
L214,L215
C314-C317
LPF
IC604
ENC_Y
L602
C618,619
LPF
VC1
IC601
Q601-Q604
SYNC SEP
IC211
AMP
DRIVER
IC212
AMP
Q225,226
229,230
DRIVER
C OUT
IC209
AMP
L210,L211
C291-C294
LPF
IC603
ENC_C
+3V
R1
R2
GND
VD
BLK1
HSYNC
IC204
ONSCREEN
IC201
D/A
DAC_LD(H)
DAC_CLK
DAC_DATA
ADD_DC
AGC_ADJ
OSD_ADJ
OSC
VC601,602
OSC_IN
OSC_OUT
OSD_RST(L)
OSD_DATA
OSD_CS(L)
OSD_CLK
From SYSCON

5.10 DV/CPU CIRCUIT BOARD

– SIDE A –



– SIDE B –



● ADDRESS TABLE OF BOARD PARTS

Each address may have an address error by one interval.

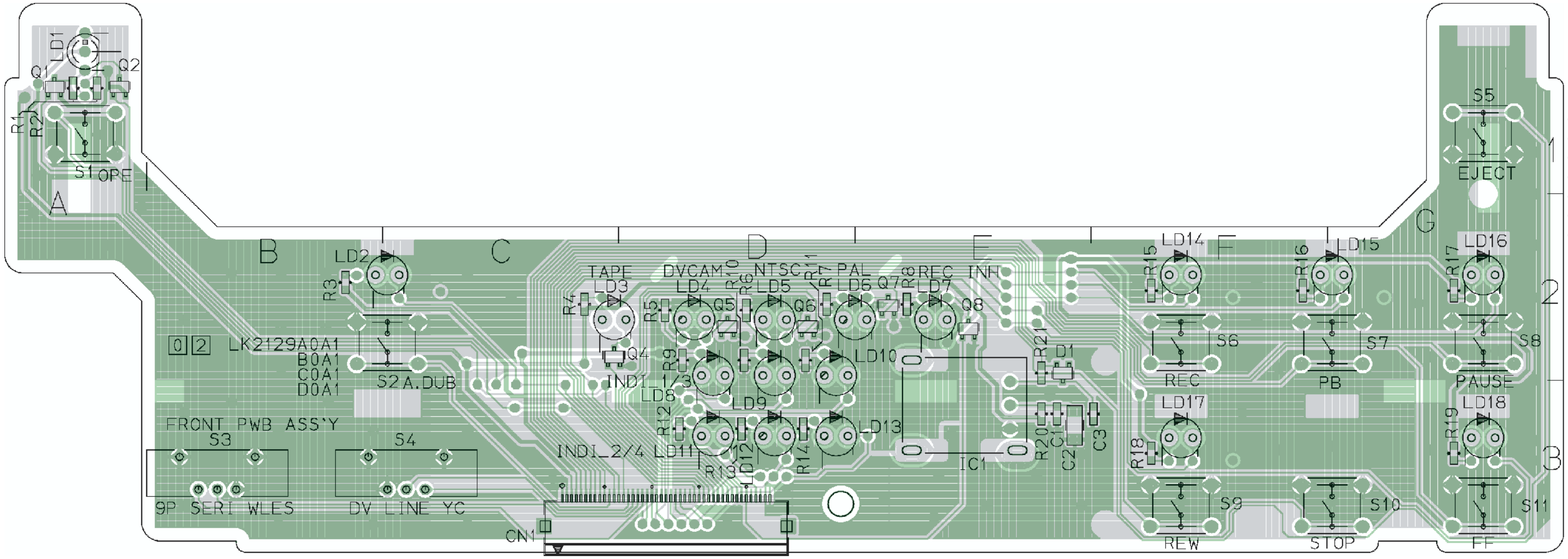
A-1C
Side
Y axis
X axis

IC1	A-2D
IC2	A-2C
IC3	A-1D
IC101	A-2E
IC102	A-2E
IC103	A-2F
IC104	B-1E
IC105	B-1E
IC106	B-1F
IC107	A-1E
IC301	A-1G
IC302	A-2G
IC303	B-2F
IC401	A-1B
IC402	A-2F
IC403	A-2B
IC404	B-1A
IC405	B-2G
Q101	A-1E
Q102	A-1E
Q401	B-2G
Q402	A-1A
Q403	A-1A
Q404	A-1C
Q405	A-1C
Q406	A-1A
Q407	A-1C
Q408	A-1A
Q409	A-1A
Q410	B-1B
Q411	B-1B
Q412	B-1B
D101	A-1E
D102	A-1F
D103	A-1F
D401	B-1C
D402	B-1B
D403	B-1B
R1	A-2C
R2	A-2C
R3	A-2C
R4	A-2D
R5	A-2D
R6	A-1D
R7	A-1D
R8	A-1D
R9	A-1D
R10	A-2D
R11	A-2D
R12	A-2D
R13	A-2D
R14	A-2D
R101	A-2E
R102	A-1E
R104	A-1E
R105	A-2E
R106	A-2E
R107	A-1E
R108	A-1E
R109	A-2E
R110	A-1E
R111	A-2E
R112	A-2E
R113	B-2F
R114	A-2E
R115	B-2F
R116	B-1E
R117	B-2E
R118	A-1E
R119	A-2E
R120	B-1E
R121	B-1E
R122	A-1E
R123	A-1E
R124	A-1E
R126	B-1F
R127	B-2F
R128	A-2E
R129	A-2F
R130	A-2F
R131	A-2F
R132	A-2F
R133	A-2F
R134	A-2F
R135	A-2C
R136	A-2C
R137	A-2C
R138	A-2C
R139	B-1E
R140	B-1E
R141	A-2F
R142	A-1F
R143	A-1F
R144	A-1F
R145	B-2F
R146	B-2F
R147	B-2F
R148	B-2F
R149	A-1F
R150	B-1F
R151	A-1F
R152	A-1F
R153	A-1E
R154	A-1E
R155	A-1F
R156	A-1F
R157	A-1F
R158	A-1F
R159	A-1F
R160	A-1F
R161	B-1F
R164	B-1F
R165	B-1G
R166	B-1G
R167	B-1G
R168	B-1G
R169	B-1F
R170	B-1F
R171	B-1E
R172	B-1E
R173	B-1E
R174	B-1E
R175	A-2F
R176	A-1F
R177	A-1E
R178	A-1E
R179	A-1E
R180	A-1E
R181	B-1E
R182	B-1F
R183	B-1F
R184	B-1F
R185	B-1E
R187	B-1E
R189	A-1E
R301	A-1G
R302	A-1G
R303	A-1G
R304	A-1G
R305	A-1G
R306	A-1G
R307	A-1G
R308	A-1G
R309	B-1G
R310	B-2G
R311	A-1G
R312	B-1F
R313	A-1F
R314	A-1F
R315	B-1F
R316	B-1F
R317	B-1F
R318	B-2F
R319	B-1F
R320	A-1F
R321	B-2F
R322	B-2F
R323	B-2F
R324	B-2G
R325	A-2F
R326	B-2G
R327	B-2G
R328	B-2G
R329	B-2F
R330	B-2G
R331	A-2G
R332	B-2G
R333	B-2G
R334	B-2G
R335	B-2G
R336	A-2G
R337	A-2G
R338	A-2F
R339	A-2G
R340	A-2G
R341	B-2G
R342	B-2G
R343	B-2G
R344	A-2G
R345	A-2G
R346	B-2G
R347	B-2G
R348	B-2G
R349	B-2G
R350	B-2G
R351	B-2G
R352	B-2G
R355	B-2F
R356	B-2F
R357	B-1F
R358	A-2G
R401	A-2A
R402	A-2A
R403	B-2G
R404	B-2G
R405	B-1B
R406	B-1B
R407	B-1B
R408	B-1B
R409	B-1B
R410	B-1B
R411	A-1B
R412	B-1B
R413	A-1B
R415	B-1B
R416	B-1C
R417	B-1C
R418	B-1C
R419	B-1C
R420	B-1B
R421	B-1C
R422	B-1C
R423	B-1C
R424	B-1B
R425	A-1B
R426	A-1B
R427	A-1B
R428	A-1B
R429	B-1B
R430	B-1B
R431	B-1B
R432	A-1B
R433	B-1G
R434	A-1G
R435	B-1G
R436	A-1G
R437	B-1G
R438	A-1G
R439	B-1G
R440	A-1G
R441	B-1G
R442	B-1G
R443	B-1G
R444	A-1F
R445	B-1G
R446	B-1G
R447	B-1G
R448	B-1G
R449	B-1G
R450	B-1G
R451	B-1G
R452	B-1G
R453	B-1B
R455	B-1B
R456	A-1A
R457	A-1A
R458	A-1A
R459	B-1A
R460	B-1A
R461	B-1C
R462	A-1A
R463	A-1A
R464	A-1A
R465	A-1C
R466	A-1C
R467	A-1C
R468	A-1C
R469	A-1A
R470	B-1G
R471	B-1G
R472	B-1G
R473	B-1G
R474	B-1C
R475	B-1C
R476	B-1C
R477	B-1C
R478	B-1C
R479	A-1A
R480	A-1A
R481	B-1A
R482	B-1A
R483	B-1A
R484	B-1A
R485	B-1A
R486	A-1A
R487	A-1A
R488	A-1A
R489	A-1A
R490	A-1A
R491	A-1C
R492	A-1G
R493	B-1B
R494	B-1B
R495	B-1C
RA101	A-2E
RA102	B-1F
RA103	B-1F
RA104	B-1E
RA105	B-1E
RA106	B-1F
RA107	B-1E
RA401	B-1C
RA402	B-1C
RA403	B-1A
C1	A-2C
C2	A-2C
C3	A-2D
C4	A-2D
C5	A-2C
C6	A-2D
C7	A-2C
C8	A-2C
C9	A-2C
C10	A-2C
C11	A-1D
C12	A-2D
C13	A-2C
C14	A-1C
C15	A-2D
C16	A-1D
C17	A-1D
C18	A-2D
C19	A-1D
C20	A-2D
C21	A-2D
C22	A-2E
C23	A-2D
C24	A-2D
C25	A-2D
C26	A-2D
C27	A-2D
C28	A-2D
C29	A-2D
C30	A-2D
C31	A-2D
C32	A-2D
C33	A-2D
C34	A-2C
C35	A-1D
C101	A-2E
C102	A-2E
C103	A-2E
C104	A-2E
C105	A-2E
C106	A-1E
C107	A-2E
C108	A-2E
C109	A-2E
C110	A-2E
C111	A-2F
C112	A-2F
C113	A-1F
C114	A-2F
C115	A-2F
C116	A-2E
C117	A-2E
C118	A-1F
C119	A-2E
C120	A-2E
C121	A-1F
C122	A-1E
C123	A-2E
C124	A-2F
C125	A-2E
C126	A-1E
C127	A-1E
C128	A-1E
C129	A-2F
C130	A-2F
C131	A-2F
C132	A-2F
C133	A-2F
C134	B-2F
C135	B-2F
C136	B-2F
C137	A-2E
C138	A-1F
C139	A-1F
C140	A-1F
C141	A-1F
C142	A-1F
C143	A-1F
C144	A-1E
C145	B-1F
C146	B-1E
C147	B-2E
C148	A-2F
C149	A-2F
C150	A-2E
C151	A-2E
C152	B-1F
C154	A-2F
C155	A-1E
C156	A-1E
C301	A-2G
C302	A-1G
C303	A-1G
C304	A-1G
C305	A-2F
C306	A-1G
C307	A-1G
C308	A-2G
C309	A-2F
C310	A-2G
C311	A-2G
C312	A-2G
C313	B-2F
C314	B-2F
C401	A-1A
C402	A-1B
C403	A-1B
C404	A-1B
C405	A-1B
C406	A-1B
C407	A-1B
C408	A-2B
C409	A-2B
C410	A-2B
C411	A-2F
C412	A-2F
C413	A-2F
C414	A-2F
C415	A-2B
C416	A-2B
C417	A-2B
C418	A-2B
C419	A-1B
C420	A-1B
C421	A-1A
C422	A-2E
C423	A-2E
C424	A-2C
C425	A-2C
C426	A-2C
C427	A-2C
C428	A-2G
C429	A-2G
C430	A-2A
C432	A-2G
C433	A-2G
C434	A-2G
C435	A-2G
C436	A-2G
C437	A-2G
C438	A-1B
C439	A-1B
C442	A-1B
C443	A-1B
C444	A-1B
C445	A-1B
C446	A-1A
C447	B-1A
C448	B-1C
C449	A-1A
C450	A-1C
C451	B-2G
C452	A-2G
C453	A-2A
X101	A-1E
X102	A-1E
X301	A-1G
TP1	A-2C
TP2	A-2D
TP3	A-2E
CN101	A-2B
CN102	A-1E
CN103	A-1G
CN104	A-1C
CN105	A-1B
CN106	A-1A
CN107	A-1D
CN108	A-2A
CN109	A-1A
K1	A-2C
K101	A-2E
K103	A-2B
K401	A-1B
K402	B-2G
LC401	A-1B
LC402	A-2B
LC403	A-2B
LC404	A-1B
LC405	A-2B
L1	A-2C
L2	A-1C
L3	A-1C
L4	A-1D
L101	A-1E
L102	A-2C
L103	A-1F
L104	A-1F
L105	A-2E
L402	A-2E
L403	A-1C
L404	A-1C
L405	A-2G
L406	A-2G
L407	A-2G
L408	A-2G
TL1	A-2E
TL2	A-1D
TL3	A-2D
TL4	A-2D
TL101	A-1F
TL102	A-2E
TL103	A-1G
TL104	A-2G
TL105	A-1G
TL106	A-1G
TL107	A-2G
TL108	A-1F
TL109	A-1F
TL110	A-1F
TL401	A-1B
TL402	A-1B
TL403	B-2G
TL404	B-2G
TL405	B-2G
TL406	B-2G
TL407	B-2G
TL408	B-1F
TL409	B-1F
TL410	B-1F

5.14 FDM (FRONT, DV CONN & MIC) CIRCUIT BOARDS

– FRONT CIRCUIT BOARD –

– SIDE A –


LD1
Q1
Q2
R1
R2
S1 OPE
A
B
C
D
E
F
G
1
2
3
LD2
R3
TAPE
LD3
R4
Q4
DVCAM
LD4
R5
Q5
R10
R6
NTSC
LD5
Q6
R11
R7
PAL
LD6
Q7
R8
REC INH
LD7
Q8
R9
INDI_1/3
LD8
LD9
LD10
R12
LD11
LD12
R13
R14
LD13
INDI_2/4
IC1
R21
D1
R20
C1
C2
C3
LK2129A0A1
B0A1
C0A1
D0A1
S2 A.DUB
FRONT PWB ASS'Y
S3
S4
9P SERI WLES
DV LINE YC
CN1
LD14
R15
S6
REC
R18
LD17
S9
REW
LD15
R16
S7
PB
S10
STOP
S5
EJECT
LD16
R17
S8
PAUSE
LD18
R19
S11
FF

● ADDRESS TABLE OF BOARD PARTS

Each address may have an address error by one interval.

A-1C

Side

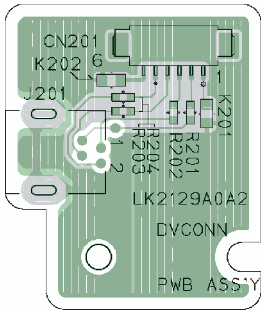
Y axis

X axis

IC1	A-3E
Q1	A-1A
Q2	A-1A
Q4	A-2C
Q5	A-2D
Q6	A-2D
Q7	A-2E
Q8	A-2E
D1	A-3E
R1	A-1A
R2	A-1A
R3	A-2B
R4	A-2C
R5	A-2D
R6	A-2D
R7	A-2D
R8	A-2E
R9	A-2D
R10	A-2D
R11	A-2D
R12	A-3D
R13	A-3D
R14	A-3D
R15	A-2F
R16	A-2F
R17	A-2G
R18	A-3F
R19	A-3G
R20	A-3E
R21	A-3E
C1	A-3E
C2	A-3E
C3	A-3F
LD1	A-1A
LD2	A-2B
LD3	A-2C
LD4	A-2D
LD5	A-2D
LD6	A-2D
LD7	A-2D
LD8	A-3D
LD9	A-3D
LD10	A-3D
LD11	A-3D
LD12	A-3D
LD13	A-3D
LD14	A-2F
LD15	A-2F
LD16	A-2G
LD17	A-3F
LD18	A-3G
CN1	A-3C
S1	A-1A
S2	A-2B
S3	A-3B
S4	A-3B
S5	A-1G
S6	A-2F
S7	A-2F
S8	A-2G
S9	A-3F
S10	A-3F
S11	A-3G

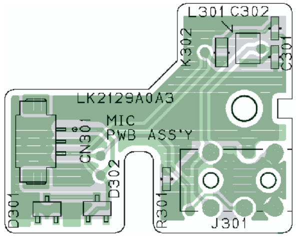
– DV CONN CIRCUIT BOARD –

– SIDE A –


CN201
K202
6
1
J201
K201
R201
R202
R203
R204
1
2
LK2129A0A2
DVCONN
PWB ASS'Y

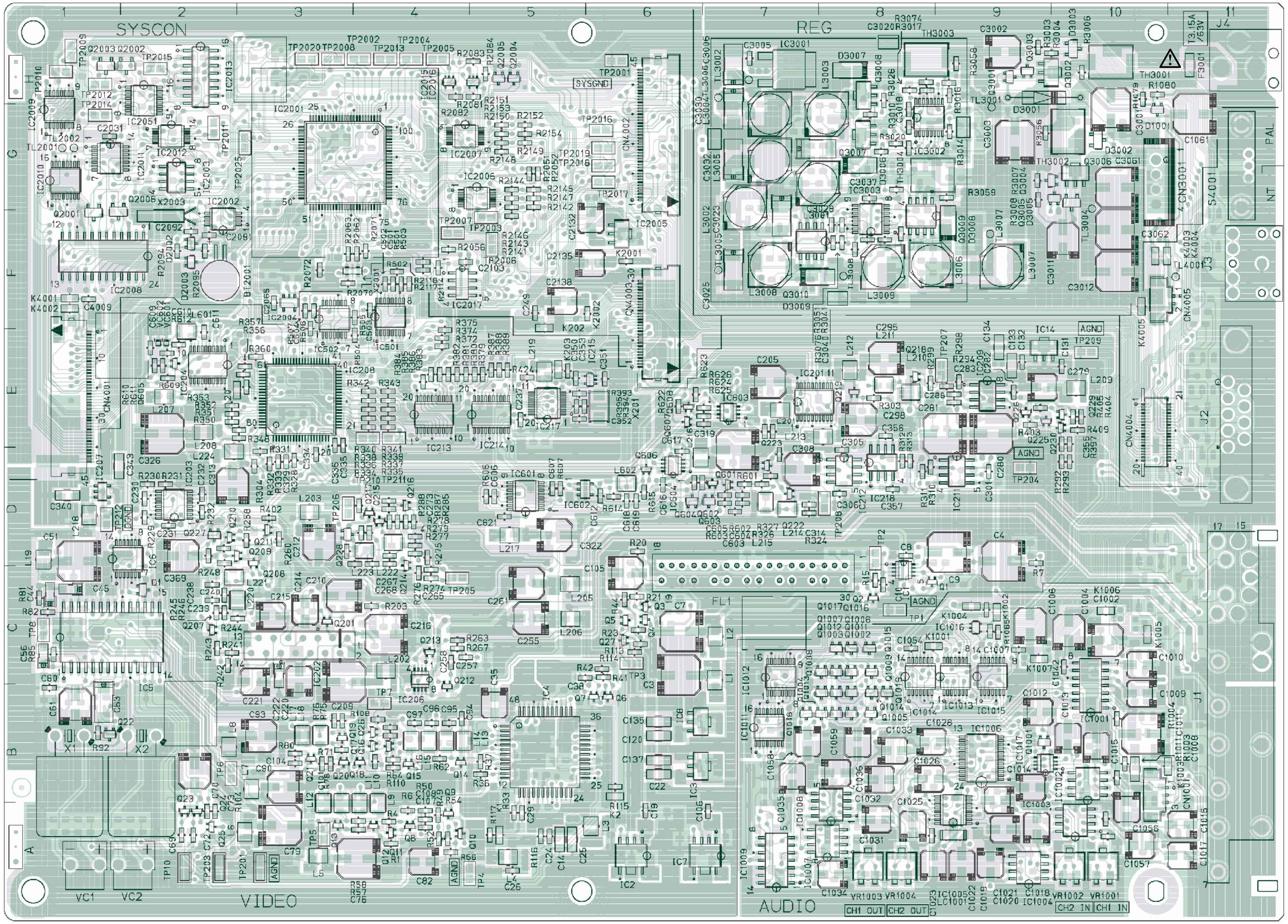
– MIC CIRCUIT BOARD –

– SIDE A –


L301
C302
K302
C301
LK2129A0A3
MIC
PWB ASS'Y
CN301
D302
D301
R301
J301

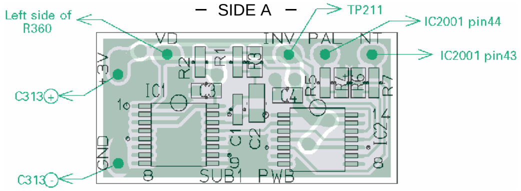
5.8 MAIN CIRCUIT BOARD

– SIDE A –



– SUB1 CIRCUIT BOARD –

– SIDE A –



IMPORTANT SAFETY NOTICE:

COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

⚠ 警 告

⚠ 印の部品は安全上重要な部品です。
交換するときは、安全上および性能維持のため
必ず指定の部品をご使用ください。

● ADDRESS TABLE OF BOARD PARTS

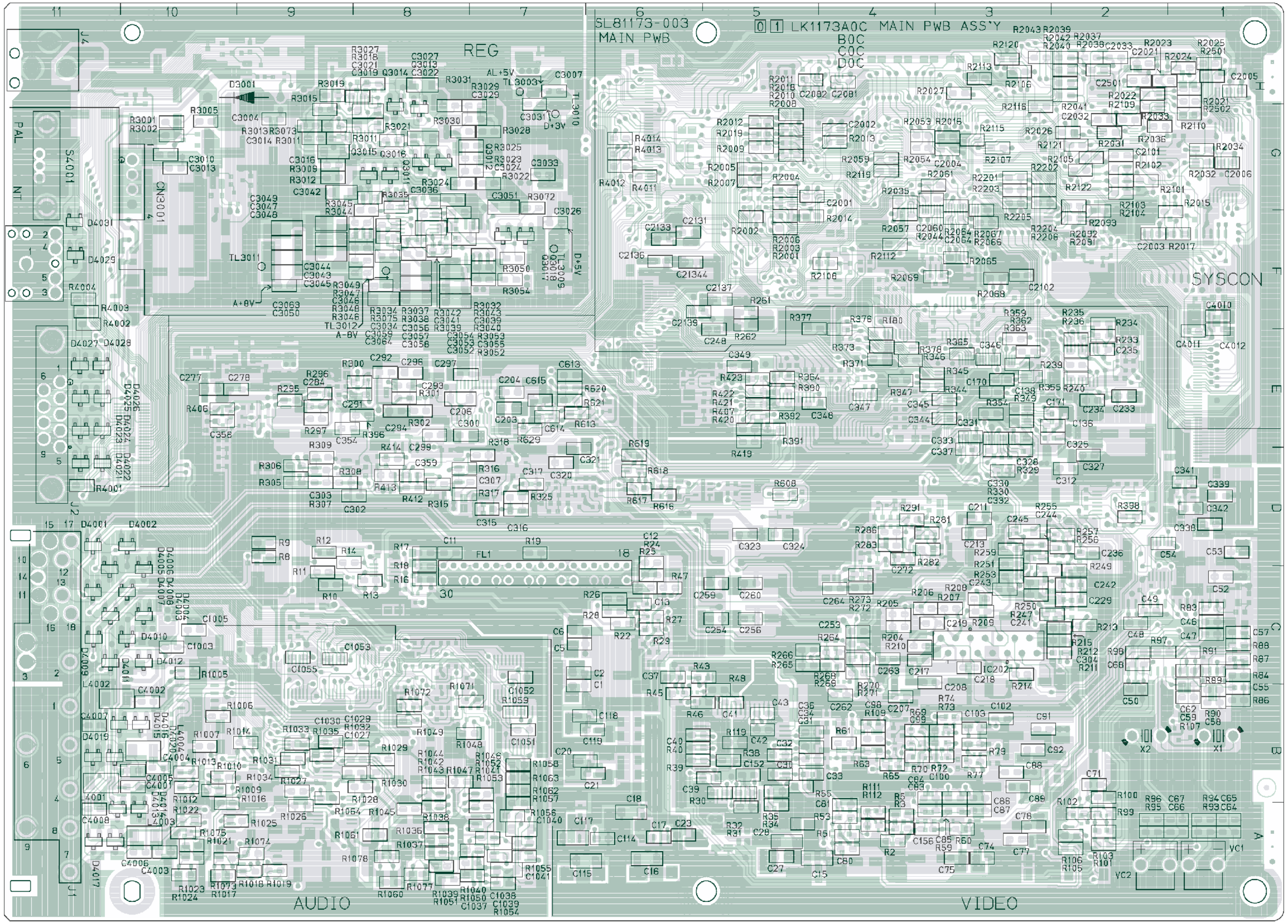
Each address may have an address error by one interval.

A-1C
Side
Y axis
X axis

IC1	A-8D	Q605	A-1E	R31	B-5A	R248	A-2D	R379	A-4E	R1052	B-7A
IC2	A-5A	Q606	A-6D	R32	B-5B	R249	B-2D	R380	A-4E	R1053	B-7A
IC3	A-6B	Q607	A-6E	R33	A-4A	R250	B-2D	R381	A-4E	R1054	B-7A
IC4	A-5B	Q608	A-6E	R34	B-4B	R251	B-2D	R382	A-4E	R1055	B-7A
IC5	A-1C	Q1001	A-9B	R35	B-4B	R252	A-2D	R383	A-4E	R1056	B-7A
IC6	A-1D	Q1002	A-8B	R36	A-4B	R253	B-2D	R384	A-4E	R1057	B-7B
IC7	A-6A	Q1003	A-7B	R37	A-4B	R254	A-2D	R385	A-4E	R1058	B-7B
IC8	A-6B	Q1004	A-7B	R38	B-5B	R255	B-2D	R386	A-4E	R1059	B-7B
IC14	A-9E	Q1005	A-8B	R39	B-5B	R256	B-2D	R387	A-4E	R1060	B-8A
IC201	A-7E	Q1006	A-8C	R40	B-5B	R257	B-2D	R388	A-4E	R1061	B-8A
IC202	A-3C	Q1007	A-7C	R41	A-5C	R258	A-2D	R389	A-4E	R1062	B-7B
IC203	A-1D	Q1008	A-7C	R42	A-5C	R259	B-2D	R390	B-4E	R1063	B-7B
IC204	A-2E	Q1009	A-8C	R43	B-5C	R260	A-2D	R391	B-4E	R1064	B-9B
IC206	A-4C	Q1011	A-8B	R44	A-5C	R261	B-5F	R392	B-4E	R1065	A-9C
IC207	A-1D	Q1012	A-7B	R45	B-5B	R262	B-5F	R393	A-5E	R1071	B-7B
IC208	A-2E	Q1013	A-7B	R46	B-5B	R263	A-4C	R394	A-5E	R1072	B-8B
IC209	A-9E	Q1014	A-8B	R47	B-5C	R264	B-4C	R395	A-5E	R1073	B-9A
IC211	A-8D	Q1015	A-8C	R48	B-5C	R265	B-4C	R396	B-8E	R1074	B-9A
IC212	A-7D	Q1016	A-8C	R49	A-4A	R266	B-4C	R397	A-10E	R1075	B-10A
IC213	A-4E	Q1017	A-7C	R50	A-4A	R267	A-4C	R398	B-1D	R1076	A-10A
IC214	A-4E	Q1018	A-7B	R51	B-4A	R268	B-4C	R402	A-2D	R1077	B-8A
IC215	A-5E	Q1019	A-8B	R52	A-4A	R269	B-4C	R403	A-9E	R1078	B-8A
IC217	A-5E	Q2001	A-1G	R53	B-4A	R270	B-4C	R404	A-10E	R1079	A-10H
IC218	A-8D	Q2002	A-1H	R54	A-4A	R271	B-4C	R405	A-10E	R1080	A-10H
IC501	A-3F	Q2003	A-1H	R55	B-4B	R272	B-4C	R406	B-9E	R2001	B-4G
IC502	A-3F	Q2004	A-4H	R56	A-4A	R273	B-4D	R407	B-5E	R2002	B-5G
IC601	A-5D	Q2005	A-4H	R57	A-3A	R274	A-4D	R408	A-9E	R2003	B-4G
IC602	A-5D	Q2006	A-1G	R58	A-3A	R275	A-4D	R409	A-10E	R2004	B-4G
IC603	A-6E	Q3001	A-9H	R59	B-3A	R276	A-4D	R412	B-8D	R2005	B-5G
IC604	A-6D	Q3002	A-9H	R60	B-3A	R277	A-3D	R413	B-8D	R2006	B-4G
IC1001	A-10C	Q3003	A-9H	R61	B-4B	R278	A-3D	R414	B-8E	R2007	B-5G
IC1002	A-10B	Q3004	A-9G	R62	A-4B	R279	A-3D	R419	B-5E	R2008	B-4G
IC1003	A-10A	Q3005	A-9G	R63	B-3B	R280	A-3D	R420	B-5E	R2009	B-5G
IC1004	A-9A	Q3006	A-10G	R64	A-3B	R281	B-3D	R421	B-5E	R2010	B-4G
IC1005	A-8A	Q3007	A-8G	R65	B-3B	R282	B-3D	R422	B-5E	R2011	B-4H
IC1006	A-9B	Q3008	A-8H	R66	A-3B	R283	B-3D	R423	B-5E	R2012	B-5G
IC1007	A-7A	Q3009	A-8G	R67	A-3B	R284	A-3D	R424	A-5E	R2013	B-4G
IC1008	A-7B	Q3010	A-7F	R68	A-3B	R285	A-3D	R501	A-3F	R2014	B-4G
IC1009	A-7A	Q3011	B-8G	R69	B-3B	R286	B-3D	R502	A-3F	R2015	B-1G
IC1011	A-7B	Q3012	B-7G	R70	B-3B	R287	A-3D	R503	A-3F	R2016	B-3G
IC1012	A-7C	Q3013	B-8H	R71	A-3B	R288	A-3D	R504	A-3F	R2017	B-1F
IC1013	A-8C	Q3014	B-8H	R72	B-3B	R289	A-3D	R505	A-3F	R2018	B-4G
IC1014	A-8C	Q3015	B-8G	R73	B-3B	R290	A-3D	R506	A-3F	R2019	B-5G
IC1015	A-9C	Q3016	B-8G	R74	B-3B	R291	B-3D	R507	A-2F	R2021	B-1H
IC1016	A-9C	Q3017	B-7F	R75	A-3B	R292	A-9E	R601	A-7D	R2022	B-1H
IC1017	A-9B	Q3018	B-7F	R76	A-3B	R293	A-10E	R602	A-7D	R2023	B-1H
IC2001	A-3G			R77	B-3B	R294	A-8E	R603	A-6D	R2024	B-1H
IC2002	A-2G	D1	A-1C	R78	A-3B	R295	B-9E	R604	A-6D	R2025	B-1H
IC2003	A-1G	D1001	A-10H	R79	B-3B	R296	B-9E	R605	A-6D	R2026	B-2G
IC2004	A-2F	D2002	A-1F	R80	A-2B	R297	B-9E	R606	A-4D	R2027	B-3H
IC2005	A-5F	D2003	A-1F	R81	A-1C	R298	A-9E	R607	A-5D	R2031	B-1G
IC2006	A-4G	D3001	A-10H	R82	A-1C	R299	A-8E	R608	B-4D	R2032	B-1G
IC2007	A-4G	D3002	A-10G	R83	B-1C	R300	B-8E	R609	A-1E	R2033	B-1G
IC2008	A-1F	D3003	A-10H	R84	B-1C	R301	B-8E	R610	A-1E	R2034	B-1G
IC2009	A-1H	D3005	A-10G	R85	A-1C	R302	B-8E	R611	A-1E	R2035	B-3G
IC2010	A-1G	D3006	A-8G	R86	B-1B	R303	A-8E	R612	A-1E	R2036	B-1G
IC2011	A-1G	D3007	A-7H	R87	B-1C	R304	A-2D	R613	B-6E	R2037	B-1H
IC2012	A-1G	D3008	A-8G	R88	B-1C	R305	B-9D	R614	A-5D	R2038	B-1H
IC2013	A-2H	D3009	A-7F	R89	B-1C	R306	B-9D	R615	A-6D	R2039	B-2H
IC2015	A-4H	D4001	B-11D	R90	B-1C	R307	B-9D	R616	B-5D	R2040	B-2H
IC2016	A-4H	D4002	B-10D	R91	B-1C	R308	B-8D	R617	B-6D	R2041	B-2H
IC2017	A-4F	D4003	B-11C	R92	A-1B	R309	B-9E	R618	B-6D	R2042	B-2H
IC2051	A-1H	D4004	B-10C	R93	B-1A	R310	A-8D	R619	B-6E	R2043	B-2H
IC3001	A-7H	D4005	B-11D	R94	B-1A	R311	A-8D	R620	B-6E	R2044	B-3G
IC3002	A-8H	D4006	B-10D	R95	B-1A	R312	A-8E	R621	B-6E	R2051	A-5G
IC3003	A-8G	D4007	B-11C	R96	B-1A	R313	A-8E	R622	A-6E	R2052	A-5G
		D4008	B-10C	R97	B-1C	R315	B-7D	R623	A-6E	R2053	B-3G
Q1	A-8C	D4009	B-11C	R98	B-1C	R316	B-7D	R624	A-6E	R2054	B-3G
Q2	A-8C	D4010	B-10C	R99	B-1A	R317	B-7D	R625	A-6E	R2056	A-4F
Q3	A-6C	D4011	B-11C	R100	B-1B	R318	B-7E	R626	A-6E	R2057	B-3G
Q4	A-6C	D4012	B-10C	R101	B-1A	R323	A-7E	R627	A-7E	R2059	B-3G
Q5	A-5C	D4013	B-10A	R102	B-2A	R324	A-7D	R628	A-7E	R2061	B-3G
Q6	A-5B	D4014	B-10A	R103	B-1A	R325	B-7D	R629	B-7E	R2062	A-3F
Q7	A-5B	D4015	B-10B	R104	A-2A	R326	A-7D	R1003	A-10B	R2063	A-3F
Q8	A-3A	D4016	B-10B	R105	B-2A	R327	A-7D	R1004	A-10B	R2064	B-3G
Q9	A-4A	D4017	B-11A	R106	B-2A	R328	A-2E	R1005	B-10C	R2065	B-3F
Q10	A-4A	D4018	B-10A	R107	B-1B	R329	B-2E	R1006	B-10B	R2066	B-2G
Q11	A-3A	D4019	B-11B	R108	A-3B	R330	B-2E	R1007	B-10B	R2067	B-2G
Q12	A-3A	D4020	B-10B	R109	B-3B	R331	A-2E	R1009	B-10B	R2068	B-2F
Q13	A-3A	D4021	B-11D	R110	A-3B	R332	A-2D	R1010	B-9B	R2069	B-3F
Q14	A-4B	D4022	B-11D	R111	B-3A	R333	A-2E	R1011	A-10B	R2070	A-3F
Q15	A-3B	D4023	B-11E	R112	B-3A	R334	A-3E	R1012	B-10B	R2071	A-3F
Q16	A-3B	D4024	B-11E	R113	A-6C	R335	A-3E	R1013	B-10B	R2072	A-3F
Q17	A-3B	D4025	B-11E	R114	A-6C	R336	A-3E	R1014	B-9B	R2081	A-4H
Q18	A-3B	D4026	B-11E	R115	A-5B	R337	A-3E	R1016	B-9B	R2082	A-4H
Q19	A-3B	D4027	B-11E	R116	A-5A	R338	A-3E	R1017	B-9A	R2083	A-4H
Q20	A-3B	D4028	B-11E	R117	A-4A	R339	A-3E	R1018	B-9A	R2084	A-4H
Q21	A-3B	D4029	B-11F	R118	B-4A	R340	A-3E	R1019	B-9A	R2091	B-2G
Q22	A-1B	D4031	B-11G	R119	B-5B	R341	A-3E	R1020	A-10A	R2092	B-2G
Q23	A-1A			R180	B-3F	R342	A-3E	R1021	B-10A	R2093	B-1G
Q24	A-1A	R1	A-3A	R203	A-3C	R343	A-3E	R1022	B-10A	R2094	A-1F
Q25	A-2A	R2	B-3A	R204	B-3C	R344	B-3E	R1023	B-10A	R2095	A-2F
Q26	A-3B	R3	B-3A	R205	B-3C	R345	B-3E	R1024	B-10A	R2101	B-1G
Q27	A-5C	R4	A-3A	R206	B-3C	R346	B-3E	R1025	B-9A	R2102	B-1G
Q201	A-3C	R5	B-3A	R207	B-3C	R347	B-3E	R1026	B-9B	R2103	B-1G
Q207	A-2C	R6	A-3A	R208	B-2C	R348	A-2E	R1027	B-9B	R2104	B-1G
Q208	A-2D	R7	A-9D	R209	B-2C	R349	B-2E	R1028	B-8B	R2105	B-1G
Q209	A-2D	R8	B-9D	R210	B-3C	R350	A-2E	R1029	B-8B	R2106	B-2H
Q210	A-2D	R9	B-9D	R211	B-2C	R351	A-2E	R1030	B-8B	R2107	B-2G
Q211	A-2D	R10	B-8C	R212	B-2C	R352	A-2E	R1031	B-9B	R2108	B-4F
Q212	A-4C	R11	B-9D	R213	B-2C	R353	A-2E	R1032	B-8B	R2109	B-1H
Q213	A-4C	R12	B-9D	R214	B-2C	R354	B-2E	R1033	B-9B	R2110	B-1H
Q214	A-3D	R13	B-8C	R215	B-2C	R355	B-2E	R1034	B-9B	R2112	B-3F
Q215	A-3D	R14	B-8D	R229	A-1D	R356	A-2E	R1035	B-9B	R2113	B-3H
Q216	A-3D	R15	A-8C	R230	A-1D	R357	A-2E	R1036	B-8A	R2114	A-4F
Q217	A-3D	R16	B-8C	R231	A-1D	R359	B-2F	R1037	B-8A	R2115	B-3G
Q218	A-8E	R17	B-8D	R232	A-2D	R360	A-2E	R1038	B-8A	R2116	B-2H
Q219	A-8E	R18	B-8D	R233	B-1F	R362	B-2E	R1039	B-7A	R2117	A-4F
Q222	A-7D	R19	B-7D	R234	B-1F	R363	B-2E	R1040	B-7A	R2118	A-4F
Q223	A-7D	R20	A-6D	R235	B-2F	R364	B-4E	R1041	B-7A	R2119	B-3G
Q225	A-9E	R21	A-6C	R236	B-2E	R365	B-3E	R1042	B-8B	R2120	B-2H
Q226	A-9E	R22	B-6C	R239	B-2E	R366	A-2E	R1043	B-8A	R2121	B-2G
Q227	A-2D	R23	A-6C	R240	B-2E	R371	B-3E	R1044	B-8B	R2122	B-2G
Q228	A-3D	R24	B-6D	R241	A-2C	R372	A-4F	R1045	B-8A	R2141	A-4G
Q229	A-9E	R25	B-6C	R242	A-2C	R373	B-3F	R1046	B-7B	R2142	A-5G
Q230	A-9E	R26	B-6C	R243	A-2C	R374	A-4F	R1047	B-7B	R2143	A-4G
Q601	A-6D	R27	B-6C	R244	A-2C	R375	A-4F	R1048	B-7B	R2144	A-4G
Q602	A-6D	R28	B-6C	R245	A-2C	R376	B-4F	R1049	B-8B	R2145	A-5G
Q603	A-6D	R29	B-6C	R246	A-2C	R377	B-4F	R1050	B-7A	R2146	A-4G
Q604	A-6D	R30	B-5B	R247	B-2C	R378	B-3E	R1051	B-7A	R2147	A-5G

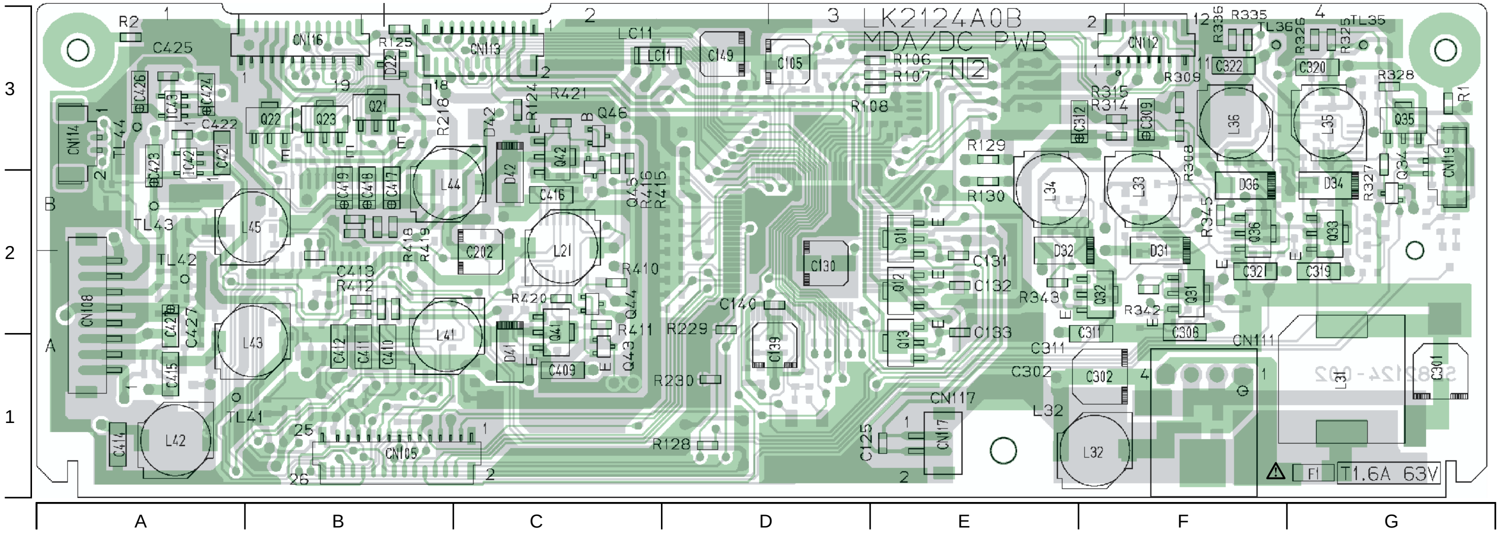
R2148	A-4G	C27	B-4A	C229	B-2C	C604	A-7D	C3024	B-7G	S4001	A-11G
R2149	A-4G	C28	B-4A	C230	A-1D	C605	A-6D	C3025	A-6F		
R2150	A-4G	C29	A-4A	C231	A-1D	C606	A-4D	C3026	B-6G	K1	A-4A
R2151	A-4G	C30	B-4B	C232	A-2D	C607	A-5D	C3027	B-8H	K2	A-5B
R2152	A-4G	C31	B-4B	C233	B-1E	C609	A-1E	C3028	A-7G	K202	A-5F
R2153	A-4G	C32	B-4B	C234	B-1E	C610	A-1F	C3029	B-7G	K203	A-5E
R2154	A-4G	C33	B-4B	C235	B-1E	C611	A-2F	C3030	A-6H	K204	A-2E
R2201	B-2G	C34	B-4B	C236	B-2D	C612	A-5D	C3031	B-7H	K1001	A-8C
R2202	B-2G	C35	A-4B	C237	A-4E	C613	B-6E	C3032	A-6G	K1002	A-9C
R2203	B-2G	C36	B-4B	C238	A-2C	C614	B-6E	C3033	B-7G	K1003	A-10B
R2204	B-2G	C37	B-5C	C239	A-2C	C615	B-7E	C3034	B-8F	K1004	A-9C
R2205	B-2G	C38	A-5C	C240	A-2C	C616	A-6D	C3035	A-8F	K1005	A-10C
R2206	B-2G	C39	B-5B	C241	B-2C	C617	A-6E	C3036	B-8G	K1006	A-10C
R2501	B-1H	C40	B-5B	C242	B-2C	C618	A-5D	C3037	A-8G	K1007	A-9C
R2502	B-1H	C41	B-5B	C243	B-2C	C619	A-6D	C3038	A-8F	K2001	A-5F
R3001	B-10G	C42	B-5B	C244	B-2D	C621	A-4D	C3039	B-7G	K2002	A-5F
R3002	B-10G	C43	B-5B	C245	B-2D	C1001	A-9C	C3040	A-7F	K4001	A-1F
R3003	A-9H	C44	A-1C	C248	B-5F	C1002	A-10C	C3041	B-8G	K4002	A-1F
R3004	A-9H	C45	A-1C	C249	A-5F	C1003	B-10C	C3042	B-8G	K4003	A-10F
R3005	B-10G	C46	B-1C	C253	B-4C	C1004	A-10C	C3043	B-8F	K4004	A-10F
R3006	A-10H	C47	B-1C	C254	B-5C	C1005	B-10C	C3044	B-8G	K4005	A-10F
R3007	A-9G	C48	B-1C	C255	A-5C	C1006	A-9C	C3045	B-8F		
R3008	A-9G	C49	B-1C	C256	B-5C	C1007	A-9C	C3046	B-8F	LC1001	A-8A
R3009	B-8G	C50	B-1C	C257	A-4C	C1008	A-10B	C3047	B-9F		
R3010	A-8G	C51	A-1D	C258	A-4C	C1009	A-10B	C3048	B-9F	BT2001	A-2F
R3011	B-8G	C52	B-1D	C259	B-5C	C1010	A-10C	C3049	B-9G		
R3012	B-8G	C53	B-1D	C260	B-5C	C1011	A-10B	C3050	B-9F	F3001	A-11H
R3013	B-9G	C54	B-1D	C261	A-5C	C1012	A-9B	C3051	B-7G		
R3014	A-8G	C55	B-1C	C262	B-4B	C1013	A-10B	C3052	B-7F	J1	A-12C
R3015	B-9H	C56	A-1C	C263	B-3C	C1014	A-9B	C3053	B-7F	J2	A-12E
R3016	A-8H	C57	B-1C	C264	B-4C	C1015	A-10B	C3054	B-7F	J3	A-12F
R3017	A-8H	C58	B-1B	C265	A-4C	C1016	A-11A	C3055	B-7F	J4	A-12H
R3018	B-8H	C59	B-1C	C267	A-3D	C1017	A-11A	C3056	B-8F		
R3019	B-8H	C60	A-1C	C268	A-3D	C1018	A-9A	C3057	B-8F	L1	A-6C
R3020	A-8G	C61	A-1B	C269	A-3D	C1019	A-9A	C3058	B-8F	L2	A-6C
R3021	B-8G	C62	B-1C	C270	A-3D	C1020	A-9A	C3059	B-8F	L3	A-5A
R3022	B-7G	C63	A-1B	C271	A-3D	C1021	A-9B	C3061	A-10G	L4	A-4A
R3023	B-7G	C64	B-1A	C272	B-3D	C1022	A-9A	C3062	A-10G	L5	A-3A
R3024	B-7G	C65	B-1A	C273	A-3D	C1023	A-8A	C3063	B-9F	L6	A-2A
R3025	B-7G	C66	B-1A	C275	A-3D	C1024	A-8A	C3064	B-8F	L7	A-2B
R3026	A-8H	C67	B-1A	C277	B-10E	C1025	A-8A	C4001	B-10B	L8	A-2B
R3027	B-8H	C68	B-1C	C278	B-9E	C1026	A-8B	C4002	B-10B	L9	A-3B
R3028	B-7G	C69	A-1A	C279	A-9E	C1027	B-8B	C4003	B-10A	L10	A-3B
R3029	B-7H	C70	A-1B	C280	A-9E	C1028	A-8B	C4004	B-10B	L11	A-3B
R3030	B-7G	C71	B-1B	C281	A-8E	C1029	B-8B	C4005	B-10B	L12	A-3B
R3031	B-7H	C72	A-1A	C282	A-9E	C1030	B-8B	C4006	B-10A	L13	A-4B
R3032	B-7G	C73	A-2A	C283	A-8E	C1031	A-8A	C4007	B-11B	L14	A-4B
R3033	A-8F	C74	B-2A	C284	B-9E	C1032	A-8B	C4008	B-11A	L15	A-4B
R3034	B-8G	C75	B-3A	C288	A-8E	C1033	A-8B	C4009	A-1F	L16	A-3B
R3035	B-8G	C76	A-3A	C291	B-8E	C1034	A-7A	C4010	B-1F	L17	A-2B
R3036	A-8F	C77	B-2A	C292	B-8E	C1035	A-7B	C4011	B-1F	L18	A-3B
R3037	B-8F	C78	B-2A	C293	B-8E	C1036	A-7B	C4012	B-1F	L19	A-1D
R3038	B-8F	C79	A-2A	C294	B-8E	C1037	B-7A			L201	A-7E
R3039	B-7F	C80	B-4A	C295	A-8E	C1038	B-7A	VC1	A-1A	L202	A-3C
R3040	B-7F	C81	B-4B	C296	B-8E	C1039	B-7A	VC2	A-1A	L203	A-3D
R3041	A-7G	C82	A-4A	C297	B-7E	C1040	B-7A	VC601	A-1F	L205	A-5C
R3042	B-8G	C83	B-3A	C298	A-8E	C1041	B-7A	VC602	A-1F	L206	A-5C
R3043	B-7G	C84	B-3B	C299	B-8E	C1042	A-9C			L207	A-1E
R3044	B-8G	C85	B-3B	C300	B-7E	C1051	B-7B	X1	A-1B	L208	A-2E
R3045	B-8G	C86	B-3B	C301	A-9D	C1052	B-7C	X2	A-1B	L209	A-10E
R3046	B-8F	C87	B-3A	C302	B-8D	C1053	B-8C	X201	A-5E	L210	A-8E
R3047	B-8F	C88	B-2B	C303	B-9D	C1054	A-8C	X2001	A-3F	L211	A-8E
R3048	B-8F	C89	B-2B	C304	B-2C	C1055	B-9C	X2003	A-1G	L212	A-7E
R3049	B-8G	C90	A-2B	C305	A-7E	C1056	A-10A			L213	A-7E
R3050	B-7F	C91	B-2B	C306	A-7D	C1057	A-10A	FL1	A-7D	L214	A-7D
R3051	A-7G	C92	B-2B	C307	B-7D	C1058	A-7B			L215	A-7D
R3052	B-7F	C93	A-2B	C308	A-7D	C1059	A-8B	TH3001	A-10H	L216	A-6E
R3053	B-7F	C94	A-4B	C312	B-2D	C1060	A-9C	TH3002	A-10G	L217	A-4D
R3054	B-7F	C95	A-4B	C313	A-2D	C1061	A-11H	TH3003	A-8H	L218	A-1D
R3056	A-9G	C96	A-4B	C314	A-7D	C2001	B-4G	TH3004	A-8G	L219	A-5E
R3058	A-8H	C97	A-3B	C315	B-7D	C2002	B-4G			L220	A-2C
R3059	A-8G	C98	B-3B	C316	B-7D	C2003	B-1F	TP1	A-8C	L221	A-2C
R3069	A-8G	C99	B-3B	C317	B-7D	C2004	B-3G	TP2	A-8D	L222	A-3D
R3070	A-8H	C100	B-3B	C319	A-6E	C2005	B-1H	TP3	A-5C	L223	A-3D
R3071	A-8G	C101	A-3B	C320	B-6D	C2006	B-1G	TP4	A-4A	L224	A-2E
R3072	B-7G	C102	B-2B	C321	B-6E	C2021	B-1H	TP5	A-3A	L601	A-1F
R3073	B-8G	C103	B-3B	C322	A-5D	C2031	A-1G	TP6	A-2B	L602	A-5D
R3074	A-8H	C104	A-2B	C323	B-5D	C2032	B-1G	TP7	A-3B	L3001	A-7G
R3075	B-8F	C105	A-5D	C324	B-4D	C2033	B-1H	TP8	A-1C	L3002	A-7G
R3076	A-7F	C106	A-6A	C325	B-2E	C2060	B-3G	TP10	A-1A	L3003	A-7H
R4001	B-11D	C107	A-4A	C326	A-1E	C2064	B-3G	TP201	A-2A	L3004	A-7H
R4002	B-11F	C108	A-4A	C327	B-2E	C2065	A-2F	TP203	A-2A	L3005	A-7G
R4003	B-11F	C114	B-6A	C328	B-2E	C2081	B-4H	TP204	A-9D	L3006	A-8F
R4004	B-11F	C115	B-6A	C329	A-2E	C2082	B-4H	TP205	A-4C	L3007	A-9F
R4011	B-6G	C117	B-6A	C330	B-2E	C2091	A-2F	TP206	A-3D	L3008	A-7F
R4012	B-6G	C118	B-6B	C331	B-2E	C2092	A-1G	TP207	A-8E	L3009	A-8F
R4013	B-6G	C119	B-6B	C332	B-2D	C2101	B-1G	TP208	A-7D	L4001	B-11B
R4014	B-6G	C120	A-6B	C333	B-3E	C2102	B-2F	TP209	A-10E	L4002	B-10B
		C131	A-9E	C334	A-3E	C2103	A-4F	TP210	A-3E	L4003	B-10A
VR1001	A-10A	C132	A-9E	C335	A-3E	C2131	B-5G	TP211	A-3E	L4004	B-10B
VR1002	A-10A	C133	A-9E	C336	A-3E	C2132	A-5G	TP212	A-1D		
VR1003	A-8A	C134	A-9F	C337	B-3E	C2133	B-5F	TP2001	A-5H	MA1	-12H
VR1004	A-8A	C135	A-6B	C338	B-1D	C2134	B-5F	TP2002	A-3H	MA2	-1H
		C136	B-2E	C339	B-1D	C2135	A-5F	TP2003	A-4G	MA3	-1A
C1	B-6C	C137	A-6B	C340	A-1D	C2136	B-5F	TP2004	A-3H	MA4	-12A
C2	B-6C	C138	B-2E	C341	B-1D	C2137	B-5F	TP2005	A-4H		
C3	A-6C	C152	B-5B	C342	B-1D	C2138	A-5F	TP2006	A-4F	TL2001	A-1G
C4	A-9D	C156	B-3A	C343	A-1D	C2139	B-5F	TP2007	A-4F	TL2002	A-1G
C5	B-6C	C170	B-2E	C344	B-3E	C2501	B-1H	TP2008	A-3H	TL3001	A-9H
C6	B-6C	C171	B-2E	C345	B-3E	C3001	A-10H	TP2009	A-1H	TL3002	A-7H
C7	A-6C	C203	B-7E	C346	B-2E	C3002	A-9H	TP2010	A-1H	TL3003	B-7H
C8	A-8D	C204	B-7E	C347	B-4E	C3003	A-9G	TP2011	A-2G	TL3004	A-10G
C9	A-8D	C205	A-7E	C348	B-4E	C3004	B-9G	TP2012	A-1H	TL3005	A-6F
C10	A-8C	C206	B-7E	C349	B-5E	C3005	A-7H	TP2013	A-3H	TL3006	A-6H
C11	B-7D	C207	B-3B	C350	A-5E	C3006	A-6H	TP2014	A-1H	TL3007	A-9F
C12	B-6D	C208	B-3C	C351	A-5E	C3007	B-6H	TP2015	A-1H	TL3008	A-7F
C13	B-6C	C209	A-3C	C352	A-5E	C3010	B-10G	TP2016	A-5G	TL3009	B-6F
C14	A-5A	C210	A-3C	C353	A-5E	C3011	A-9F	TP2017	A-5G	TL3010	B-6H
C15	B-4A	C211	B-3D	C354	B-8E	C3012	A-10F	TP2018	A-5G	TL3011	B-9F
C16	B-6A	C212	A-3D	C355	A-9E	C3013	B-10G	TP2019	A-5G	TL3012	B-8F
C17	B-5A	C213	B-3D	C356	A-8E	C3014	B-9G	TP2020	A-2H	TL4001	A-11F
C18	B-6A	C214	A-2C	C357	A-8D	C3015	A-8G	TP2025	A-2G		
C19	A-6A	C215	A-2C	C358	B-9E	C3016	B-8G				
C20	B-6B	C216	A-3C	C359	B-8D	C3017	A-8H	CN1001	A-10B		
C21	B-6B	C217	B-3C	C369	A-1D	C3018	A-8H	CN3001	A-10G		
C22	A-6B	C218	B-3C	C501	A-3F	C3019	B-8G	CN4001	A-1E		
C23	B-5A	C219	B-3C	C502	A-3F	C3020	A-8H	CN4002	A-6G		
C24	A-5A	C220	A-2C	C503	A-3F	C3021	B-8H	CN4003	A-6F		
C25	A-5A	C221	A-2C	C504	A-3F	C3022	B-8G	CN4004	A-10E		
C26	A-4A	C222	A-2C	C603	A-6D	C3023	A-7G	CN4005	A-10F		

– SIDE B –



5.11 MDA/DC CIRCUIT BOARD

– SIDE A –

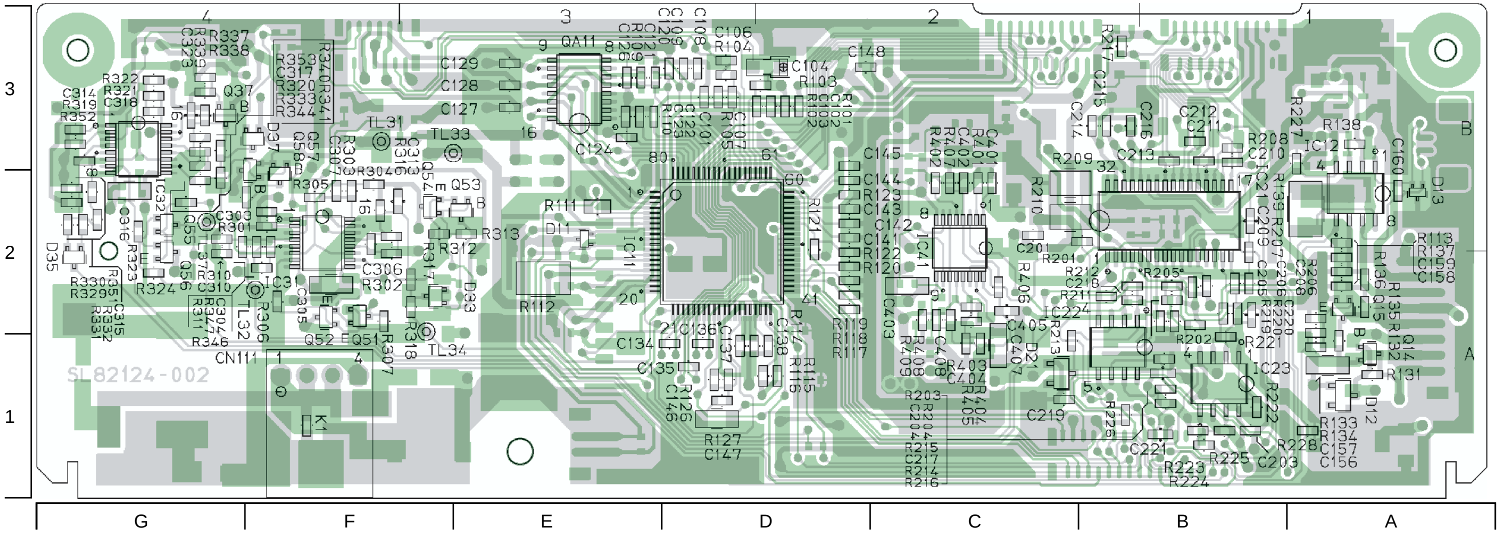


⚠ **警 告**

⚠ 印の部品は安全上重要な部品です。
交換するときは、安全上および性能維持のため
必ず指定の部品をご使用ください。

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

– SIDE B –



● ADDRESS TABLE OF BOARD PARTS
Each address may have an address error by one interval.

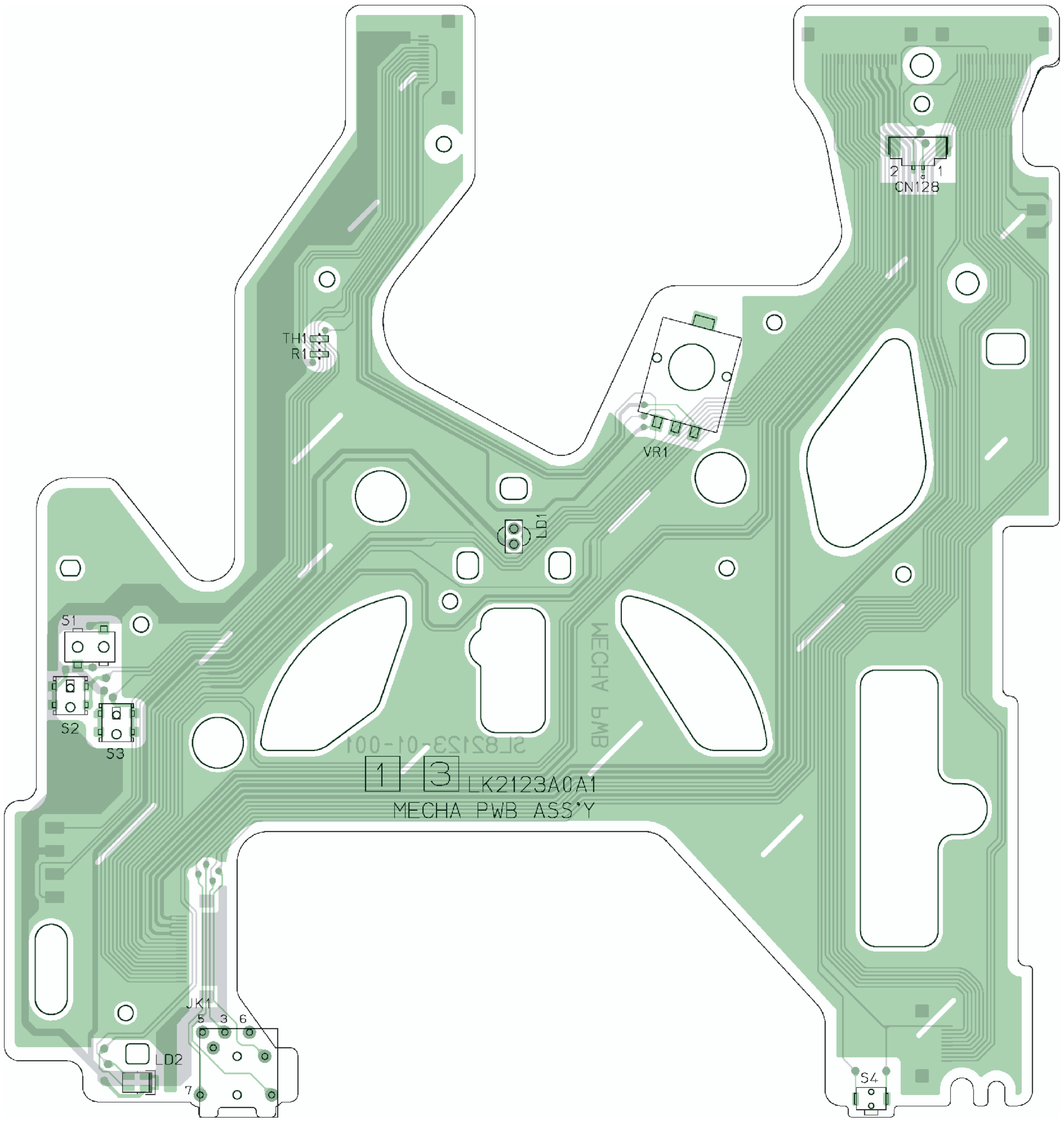
A-1C
Side
Y axis
X axis

IC11	B-2D	R120	B-2D	R328	A-3G	C142	B-2D	C422	A-3A
IC12	B-2A	R121	B-2D	R329	B-2G	C143	B-2D	C423	A-2A
IC21	B-2B	R122	B-2D	R330	B-2G	C144	B-2D	C424	A-3A
IC22	B-1B	R123	B-2D	R331	B-2G	C145	B-2D	C425	A-3A
IC23	B-1B	R124	A-3C	R332	B-2G	C146	B-1D	C426	A-3A
IC31	B-2F	R125	A-3B	R333	B-2G	C147	B-1D	C427	A-2A
IC32	B-3G	R126	B-1D	R334	B-2F	C148	B-3C		
IC41	B-2C	R127	B-1D	R335	A-3F	C149	A-3D	CN105	A-1B
IC42	A-2A	R128	A-1D	R336	A-3F	C156	B-1A	CN108	A-2A
IC43	A-3A	R129	A-3E	R337	B-3G	C157	B-1A	CN111	A-1F
		R130	A-2E	R338	B-3G	C158	B-2A	CN112	A-3F
Q11	A-2E	R131	B-1A	R339	B-3G	C159	B-2A	CN113	A-3C
Q12	A-2E	R132	B-1A	R340	B-3G	C160	B-2A	CN114	A-3A
Q13	A-1E	R133	B-2A	R341	B-2G	C201	B-2C	CN116	A-3B
Q14	B-1A	R134	B-1A	R342	A-2F	C202	A-2C	CN117	A-1E
Q15	B-2A	R135	B-2A	R343	A-2E	C203	B-1B	CN119	A-2G
Q21	A-3B	R136	B-2A	R344	B-2G	C204	B-2B		
Q22	A-3B	R137	B-2A	R345	A-2F	C205	B-2B	K1	B-1F
Q23	A-3B	R138	B-3A	R346	B-2F	C206	B-2B		
Q31	A-2F	R139	B-2A	R347	B-2F	C207	A-2B	LC11	A-3C
Q32	A-2F	R201	B-2B	R348	B-2F	C208	B-2B		
Q33	A-2G	R202	B-2B	R351	B-2G	C209	B-2B	F1	A-1G
Q34	A-2G	R203	B-2B	R352	B-3G	C210	B-2B		
Q35	A-3G	R204	B-2B	R353	B-3G	C211	B-3B	L21	A-2C
Q36	A-2F	R205	B-2B	R401	B-2C	C212	B-3B	L31	A-1G
Q37	B-3G	R206	B-2B	R402	B-2C	C213	B-3B	L32	A-1F
Q41	A-1C	R207	B-2B	R403	B-2C	C214	B-3B	L33	A-2F
Q42	A-3C	R208	B-3B	R404	B-1C	C215	B-3B	L34	A-2E
Q43	A-1C	R209	B-2C	R405	B-1C	C216	B-3B	L35	A-3G
Q44	A-2C	R210	B-2C	R406	B-2C	C217	B-1B	L36	A-3F
Q45	A-2C	R211	B-2B	R407	B-2C	C218	B-2B	L41	A-1B
Q46	A-3C	R212	B-2B	R408	B-2C	C219	B-1C	L42	A-1A
Q51	B-2F	R213	B-1C	R409	B-2C	C220	B-2B	L43	A-1B
Q52	B-2F	R214	B-1B	R410	A-2C	C221	B-1B	L44	A-2B
Q53	B-2E	R215	B-1B	R411	A-2C	C301	A-1G	L45	A-2B
Q54	B-2F	R216	B-1B	R412	A-2B	C302	A-1F		
Q55	B-2G	R217	B-3B	R413	A-2B	C303	B-2F	QA11	B-3E
Q56	B-2G	R218	A-3B	R414	A-2B	C304	B-2F		
Q57	B-2F	R219	B-2B	R415	A-2C	C305	B-2F	TL31	B-3F
Q58	B-2F	R220	B-2B	R416	A-2C	C306	B-2F	TL32	B-2F
		R221	B-1B	R417	A-2B	C307	B-2F	TL33	B-3E
D11	B-2E	R222	B-1B	R418	A-2B	C308	A-1F	TL34	B-1F
D12	B-1A	R223	B-1B	R419	A-2B	C309	A-3F	TL35	A-3G
D13	B-2A	R224	B-1B	R420	A-2C	C310	B-2G	TL36	A-3F
D21	B-1C	R225	B-1B	R421	A-3C	C311	A-1F	TL37	B-2G
D22	A-3B	R226	B-1B			C312	A-3F	TL41	A-1A
D31	A-2F	R227	B-2A	C101	B-3D	C313	B-2F	TL42	A-2A
D32	A-2E	R228	B-1A	C102	B-3D	C314	B-3G	TL43	A-2A
D33	B-2F	R229	A-1D	C103	B-3D	C315	B-2G	TL44	A-3A
D34	A-2G	R230	A-1D	C104	B-3D	C316	B-2G		
D35	B-2G	R301	B-2F	C105	A-3D	C317	B-3G		
D36	A-2F	R302	B-2F	C106	B-3D	C318	B-3G		
D37	B-3F	R303	B-2F	C107	B-3D	C319	A-2G		
D41	A-1C	R304	B-2F	C108	B-3D	C320	A-3G		
D42	A-2C	R305	B-2F	C109	B-3D	C321	A-2F		
		R306	B-2F	C120	B-3D	C322	A-3F		
R1	A-3G	R307	B-2F	C121	B-3E	C323	B-3G		
R2	A-3A	R308	A-3F	C122	B-3E	C401	B-2C		
R101	B-3D	R309	A-3F	C123	B-3E	C402	B-2C		
R102	B-3D	R310	B-2G	C124	B-3E	C403	B-2C		
R103	B-3D	R311	B-2G	C125	A-1E	C404	B-2C		
R104	B-3D	R312	B-2F	C126	B-3E	C405	B-2C		
R105	B-3D	R313	B-2E	C127	B-3E	C407	B-1C		
R106	A-3E	R314	A-3F	C128	B-3E	C408	B-2C		
R107	A-3E	R315	A-3F	C129	B-3E	C409	A-1C		
R108	A-3E	R316	B-2F	C130	A-2D	C410	A-1B		
R109	B-3E	R317	B-2F	C131	A-2E	C411	A-1B		
R110	B-3E	R318	B-2F	C132	A-2E	C412	A-1B		
R111	B-2E	R319	B-3G	C133	A-1E	C413	A-2B		
R112	B-2E	R320	B-2G	C134	B-1D	C414	A-1A		
R113	B-2A	R321	B-3G	C135	B-1D	C415	A-1A		
R114	B-1D	R322	B-3G	C136	B-1D	C416	A-2C		
R115	B-1D	R323	B-2G	C137	B-1D	C417	A-2B		
R116	B-1D	R324	B-2G	C138	B-1D	C418	A-2B		
R117	B-2D	R325	A-3G	C139	A-1D	C419	A-2B		
R118	B-2D	R326	A-3G	C140	A-2D	C420	A-2B		
R119	B-2D	R327	A-2G	C141	B-2D	C421	A-3A		

5.16 MECHA & MECHA CONN CIRCUIT BOARDS

– MECHA CIRCUIT BOARD –

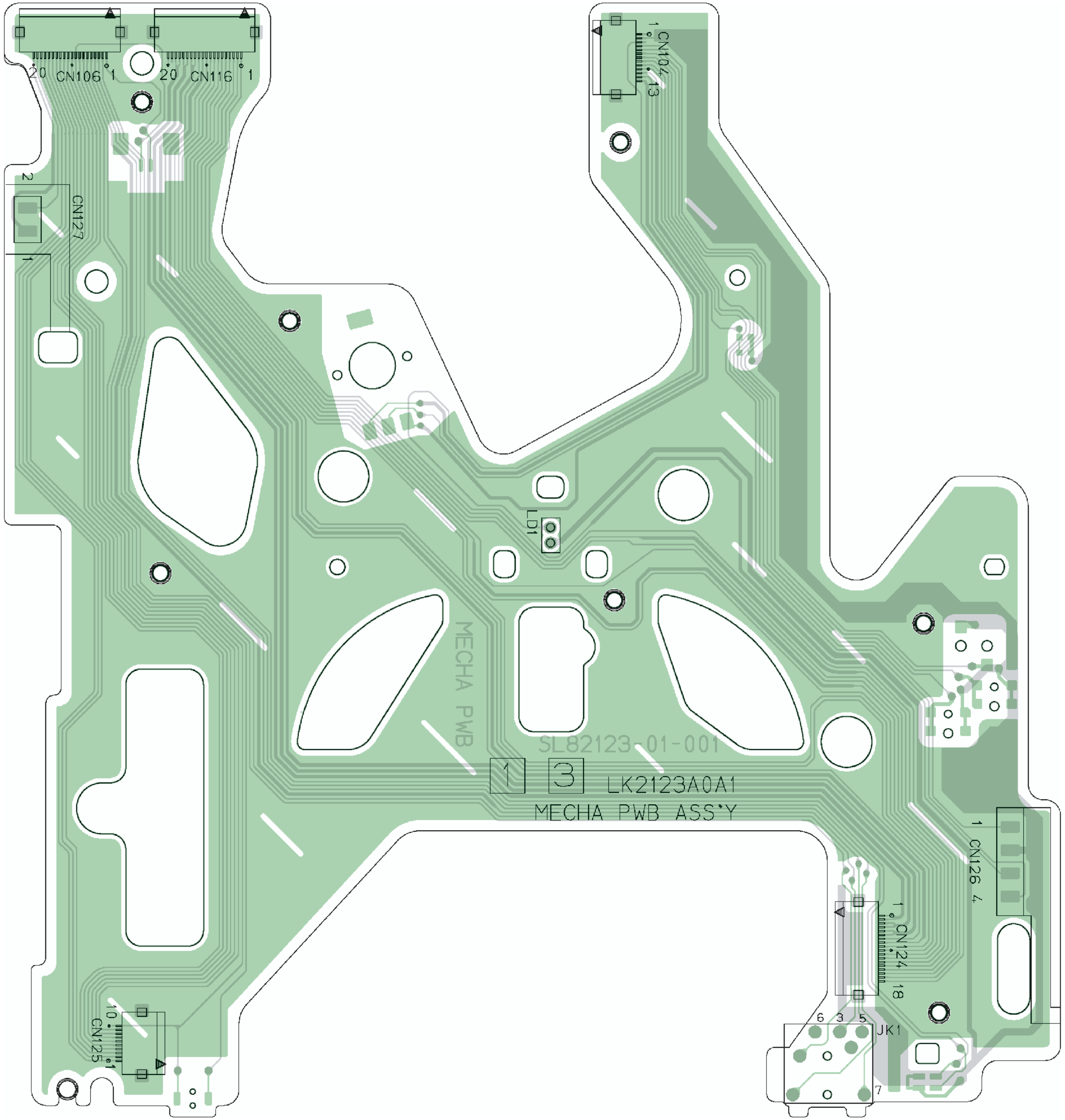
– SIDE A –



CN128
2
1
TH1
R1
VR1
LD1
S1
S2
S3
MECHA PWB
1
3
LK2123A0A1
MECHA PWB ASS'Y
JK1
5
3
6
7
LD2
S4

– MECHA CONN CIRCUIT BOARD –

– SIDE B –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JK1
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CN125
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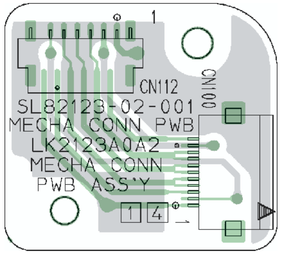
– SIDE A –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SL82123-02-001
MECHA CONN PWB
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PWB ASS'Y
1
4
1

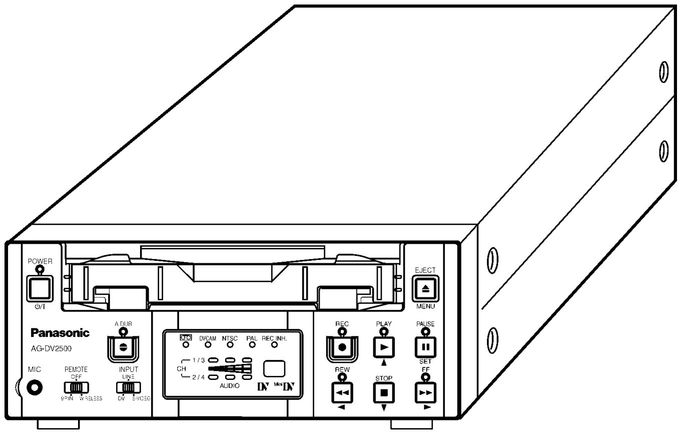
ORDER NO. BSD0303M901
D21

Service Manual

Sec. 1 *Service Information*
Sec. 2 *Mechanical Adjustments*
Sec. 3 *Electrical Adjustments*
Sec. 4 *Technical Description*
Sec. 5 *Block Diagrams/*
Schematic Diagrams/
Circuit Board Diagrams
Sec. 6 *Exploded Views &*
Replacement Parts List

DV VIDEO CASSETTE RECORDER

AG-DV2500P/E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EJECT
MENU
Panasonic
AG-DV2500
A.DUB
DVCAM
NTSC
PAL
REC INH.
CH
1/3
2/4
AUDIO
REC
PLAY
PAUSE
SET
REW
STOP
FF
MIC
REMOTE
INPUT

Panasonic

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

AG-DV2500P

■ General

Recording system : DV system (SP mode only)
Signal system : NTSC/PAL
Cassette : Standard/ mini DV cassette
Tape width : 6.35mm
Tape speed : 18.812mm/s (NTSC)
18.831mm/s (PAL)
Recording/ playback time
: 276 minutes (DV276)
63 minutes (DVM63)
Fast forward/ rewind time
: About 3 minutes (DV276)
About 1 minute (DVM63)
Power : DC12V ⎓ (supplied via the provided AC adapter)
Power consumption : 14W, 1.17A
External dimension : 174mm × (W) ×68mm (H) ×260mm (D) (Excluding protruding parts, e.g., foot)
Weight : About 2.3 kg
Allowable operating temperature
: 5˚C to 35˚C
Allowable storage temperature
: –20˚C to 60˚C
Allowable operating RH
: 30%RH to 80%RH

■ Video

Recording format : 8 bit, 13.5MHz,
4:1:1 (NTSC)
4:2:0 (PAL)
Video input
Line (composite) : 1.0V (p-p), 75Ω unbalance
S-VIDEO Y : 1.0V (p-p), 75Ω unbalance
C : 0.286V (p-p) (NTSC) /
0.3V (p-p) (PAL)
75Ω unbalance
Video output
Line (composite) : 1.0V (p-p), 75Ω unbalance
S-VIDEO Y : 1.0V (p-p), 75Ω unbalance
C : 0.286V (p-p) (NTSC) /
0.3V (p-p) (PAL)
75Ω unbalance

■ Audio

Recording format : 16 bit, 48kHz, 2 channels PCM audio/12 bit, 32kHz, 4-channel PCM audio
Number of track : 2 (16 bit,4 8kHz) /
4 (12 bit, 32kHz)
Audio input : –8dBu, 10kΩ unbalance
Mike input : –60dBu, 3kΩ unbalance
Audio output : –8dBu, 1kΩ unbalance
Frequency characteristics
: 20Hz to 20kHz (48kHz)
* 0 dBu = 0.775Vrms

■ DV interface

Input/output : IEEE1394

■ AC adapter section

Power : AC 100V to 240V∼,
50Hz/60Hz.
Power consumption
: 1.0A to 0.5A
Output : DC 12V ⎓ 3.5A

■ Accessories

Wireless remote controller	×1
AC adapter	×1
Mains Cable	×1
Battery(AA)	×2
Stand	×1

AG-DV2500E

■ General

Recording system: DV system (SP mode only)
Signal system : NTSC/PAL
Cassette : Standard/ mini DV cassette
Tape width : 6.35mm
Tape speed : 18.812mm/s (NTSC)
18.831mm/s (PAL)
Recording/ playback time
: 276 minutes (DV276)
63 minutes (DVM63)
Fast forward/ rewind time
: About 3 minutes (DV276)
About 1 minute (DVM63)
Power : DC12V⎓(supplied via the provided AC adapter)
Power consumption: 14W, 1.17A
External dimension : 174mm × (W) ×68mm (H) ×260mm (D) (Excluding protruding parts, e.g., foot)
Weight : About 2.3 kg
Allowable operating temperature
: 5˚C to 35˚C
Allowable storage temperature
: –20˚C to 60˚C
Allowable operating RH
: 30%RH to 80%RH

■ Video

Recording format: 8 bit, 13.5MHz,
4:1:1 (NTSC)
4:2:0 (PAL)
Video input
Line (composite) : 1.0V (p-p), 75Ω unbalance
S-VIDEO Y : 1.0V (p-p), 75Ω unbalance
C : 0.286V (p-p) (NTSC) /
0.3V (p-p) (PAL)
75Ω unbalance
Video output
Line (composite) : 1.0V (p-p), 75Ω unbalance
S-VIDEO Y : 1.0V (p-p), 75Ω unbalance
C : 0.286V (p-p) (NTSC) /
0.3V (p-p) (PAL)
75Ω unbalance

■ Audio

Recording format : 16 bit, 48kHz, 2 channels PCM audio/12 bit, 32kHz, 4-channel PCM audio
Number of track : 2 (16 bit,4 8kHz) /
4 (12 bit, 32kHz)
Audio input : –8dBu, 10kΩ unbalance
Mike input : –60dBu, 3kΩ unbalance
Audio output : –8dBu, 1kΩ unbalance
Frequency characteristics
: 20Hz to 20kHz (48kHz)
* 0 dBu = 0.775Vrms

■ DV interface

Input/output : IEEE1394

■ AC adapter section

Power : AC 100V to 240V∿,
50Hz/60Hz.
Power consumption
: 1.0A to 0.5A
Output : DC 12V ⎓ 3.5A

■ Accessories

Wireless remote controller	×1
AC adapter	×1
Mains Cable	×2
Battery(AA)	×2
Stand	×1

SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been over-heated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohm meter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. The resistance value must be more than 5MΩ.

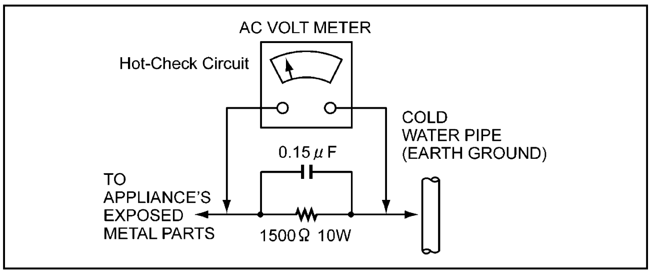


Figure1

LEAKAGE CURRENT HOT CHECK (See Figure 1)

1. Plug the AC cord directly into the AC outlet.
   Do not use an isolation transformer for this check.
2. Connect a 1.5KΩ, 10W resistor, in parallel with a 0.15μ F capacitor, between each exposed metallic part on the set an a good earth ground such as a water pipe, as shown in Figure1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet repeat each of the above measurements.
6. The potential at any point should not exceed 0.15 volts RMS. A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks, leakage current must not exceed 0.1 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

ABOUT LEAD FREE SOLDER (PbF)

Distinction of Pbf PCB:
PCBs (manufactured) using lead free solder will have a PbF stamp on the PCB.

Caution:

1. Pb free solder has a higher melting point than standard solder; Typically the melting point is 50–70˚F (30-40˚C) higher. Please use a high temperature soldering iron. In case of the soldering iron with temperature control, please set it to 700±20˚F (370±10˚C).
2. Pb free solder will tend to splash when heated too high (about 1100˚F/600˚C).

ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically sensitive (ED) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground.
   Alternatively, obtain and wear a commercially available discharging wrist trap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as alminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it.
   (most replacement ES devices are package with leads electrically shorted together by conductive foam, alminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION : Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise hamless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

X-RADIATION

WARNING

1. The potential source of X-radiation in EVF sets is the High Voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that jig is capable of handling 10kV without causing X-Radiation.

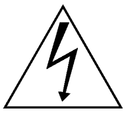
Note : It is important to use an accurate periodically calibrated high voltage meter.

3. Measure the High Voltage. The meter (electric type) reading should indicate 2.5kV,±0.15kV. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure. To prevent an X-Radiation possibility, it is essential to use the specified picture tube.

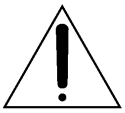
CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

This unit should be used with 120 V AC only.

CAUTION:
To prevent electric shocks and fire hazards, DO NOT use any other power source.

INFORMATION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION

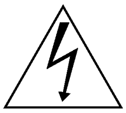
CHANGES OR MODIFICATIONS NOT APPROVED BY PANASONIC COULD VOID USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

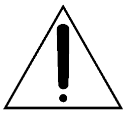
ATTENTION

RISQUE D'ELECTROCUTION
NE PAS OUVRIR

ATTENTION: POUR EVITER TOUT RISQUE D'ELECTROCUTION
NE PAS OUVRIR LE BOITER.
AUCUNE PIECE INTERIEURE N'EST
A REGLER PAR L'UTILISATEUR.
SE REFERER A UN AGENT QUALIFIE EN CAS DE PROBLEME.



Le symbole de l'éclair à l'intérieur d'un triangle équilatéral est destiné à alerter l'utilisateur sur la présence d'une "tension dangereuse" non isolée dans le boîtier du produit. Cette tension est suffisante pour provoquer l'électrocution de personnes.



Le point d'exclamation à l'intérieur d'un triangle équilatéral est destiné à alerter l'utilisateur sur la présence d'opérations d'entretien importantes au sujet desquelles des renseignements se trouvent dans le manuel d'instructions.

*Ces symboles ne sont utilisés qu'aux Etats-Unis.

AVERTISSEMENT:
POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, NE PAS EXPOSER L'APPAREIL A L'HUMIDITE OU A LA PLUIE.

Ce magnétoscope ne doit être utilisé que sur du courant alternatif en 120 V.

ATTENTION:
Afin d'éviter tout resque d'incendie ou d'électrocution, ne pas utiliser d'autres sources d'alimentation électrique.

WARNING:
The battery used in the AG-DV2500P must be replaced by a PANASONIC authorized service dealer only.

AVERTISSEMENT:
La pile utilisée dans l'appareil AG-DV2500P doit être remplacée chez un marchand de services autorisé par PANASONIC.

The Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numerique de la Classe B est conforme a la nonne NMB-003 du Canada.

L'appareil digital (Classe B) est conforme à l'ICES-003 canadien.

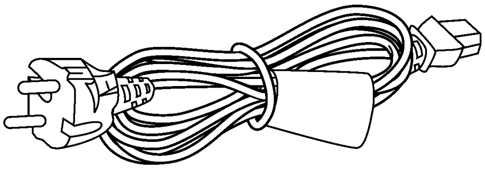
Caution for AC Mains Lead

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.

This product is equipped with 2 types of AC cable. One is for continental Europe, etc. and the other one is only for U.K. Appropriate mains cable must be used in each local area, since the other type of mains cable is not suitable.

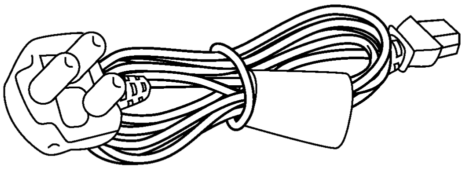
FOR CONTINENTAL EUROPE, ETC.

Not to be used in the U.K.



FOR U.K. ONLY

If the plug supplied is not suitable for your socket outlet, it should be cut off and appropriate one fitted.



FOR U.K. ONLY

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 13 amp fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 13 amps and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA ◈ mark or the BSI mark ♡ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

WARNING : THIS APPLIANCE MUST BE EARTHED.

IMPORTANT : The wires in this mains lead are coloured in accordance with the following code:

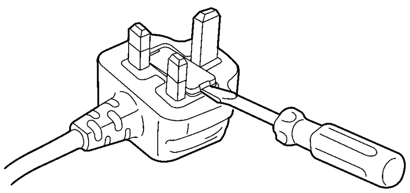
Green-and-Yellow : Earth
Blue : Neutral
Brown : Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

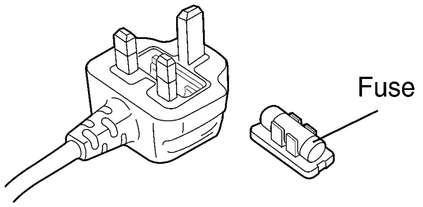
- The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the Earth symbol or coloured GREEN or GREEN-AND-YELLOW.
- The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.
- The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

How to replace the fuse

1. Open the fuse compartment with a screwdriver.



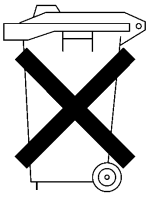
2. Replace the fuse.



Warning Notice
FOR YOUR SAFETY

1. Insert this plug only into effectively earthed three-pin power outlet.
2. If any doubt exists regarding the earthing, consult a qualified electrician.
3. Extension cord, if used, must be three-core correctly wired.

Attention/Attentie



- Batteries are used for memory back-up in the product and remote controller.
  At the end of their useful life, you should not throw them away.
  Instead, hand them in as small chemical waste.
- Baterrijen zijn gebruik gemaak voor inladen van geheugen voor allerlei producten onder ander afstandbediening.
  Wanneer de batterij niet meer beruikbaar is, mag u deze niet gewoon weggooien, maar dient u ze als klein chemisch afval weg te doen.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION
To prevent electric shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified service personnel.

The POWER button does not completely shut off mains power from the unit, but switches operating current on and off.

WARNING
It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast, or cable programme and in any literary, dramatic, musical or artistic work embodied therein.

Panasonic

FCD0303BYNK130

SECTION 4
TECHNICAL DESCRIPTION

4.1 PRODUCT OUTLINE

(1) DV Standard/Mini cassette compatible
(2) 4.5 hours consecutive recording/playback possible using Standard cassette (DV270)
(3) 5.25-inch half hight bay size compact design (mechanism unit only)
(4) Layout-free with horizontal and vertical positioning capability

4.2 MECHANISM

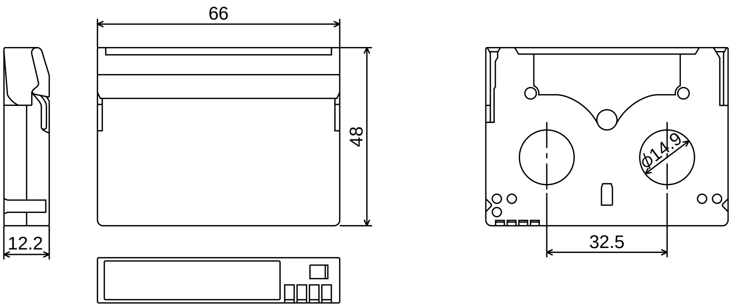
4.2.1 Mechanism out line

Item	AG-DV2500
Compatible cassette	Mini/Standard Cassette compatible
Loading system	Front loading
Head cleaner	Yes (solenoid)
Reel drive	Reel motor (1 motor)
FWD/REV reel switching	Swing gear switching
Tension control	Tension band method (SUP/TU dual control)

4.2.2 Regarding standard cassette

AG-DV2500 is newly compatible with DV standard size cassettes. Fig. 4.2.1 shows a size comparison with conventional Mini cassette. All dimensions differ, including cassette thickness in addition to height and width.

• Mini Cassette



• Standard Cassette

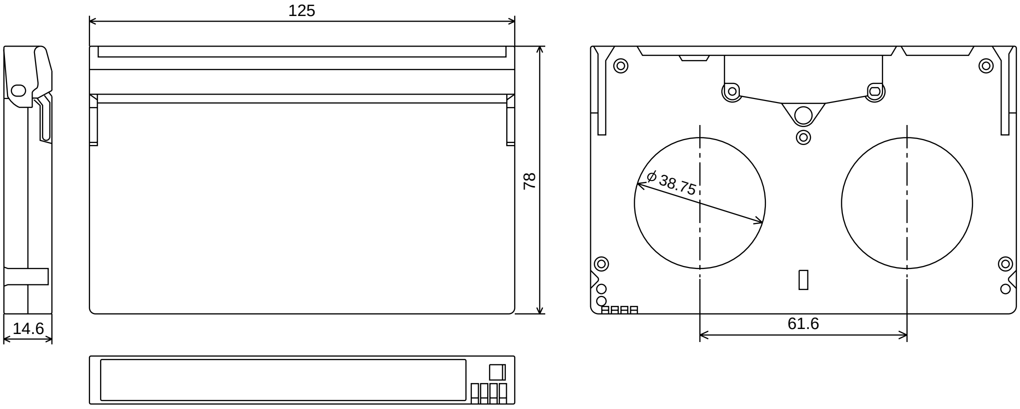


Fig. 4.2.1 Comparison Between Mini Cassette and Standard Cassette

4.2.3 Cassette housing operation outline

(1) Inserted cassette type detection

In its initial state, the reel disk is in the standard position, and only when a mini cassette is inserted it changes to the mini cassette position. As explained in Section 2, it is the reel change plate (Fig. 4.2.5) that changes the position of the reel disk.

As previously compared in 4.2.1, the thickness of standard and mini cassettes differ.

Standard cassette thickness : 14.6 mm
Mini cassette thickness : 12.2 mm

Based on this difference, it is differentiated within the cassette housing whether the inserted cassette is standard or mini.

1) When a mini cassette is inserted

The reel disk position changes to the mini cassette position at the same time the cassette housing performs the intake movement.

The reel change bracket (Fig. 4.2.3) located on the right side of the cassette housing is linked to the reel change plate (Fig. 4.2.4), so when the cassette housing intake movement occurs the reel change plate also moves, thereby changing to the mini cassette position.

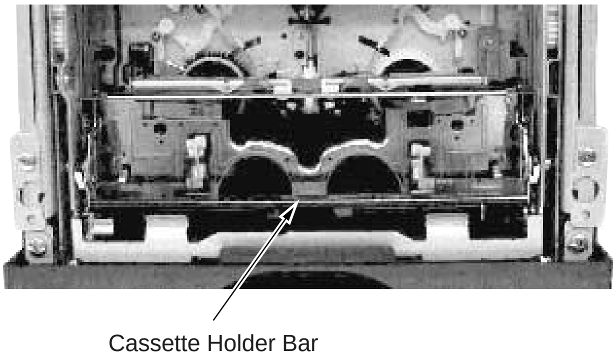


Fig. 4.2.2 Cassette Holder Bar

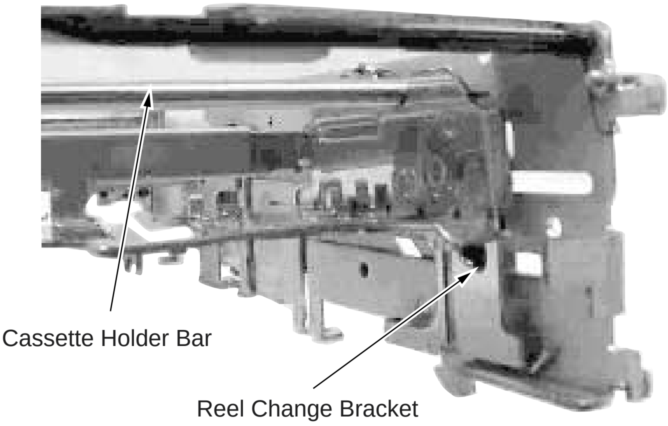


Fig. 4.2.3 Reel Change Bracket

2) When a standard cassette is inserted

The cassette holder bar (Fig. 4.2.2) is pushed up for the amount of thickness differential in relation to mini cassette, and in conjunction the reel change bracket (Fig. 4.2.3) located on the right side of the cassette housing moves upward. As a result, the link with the reel change plate (Fig. 4.2.4) becomes free, and the reel disk becomes held in the standard position even while the cassette housing is undergoing the intake movement.

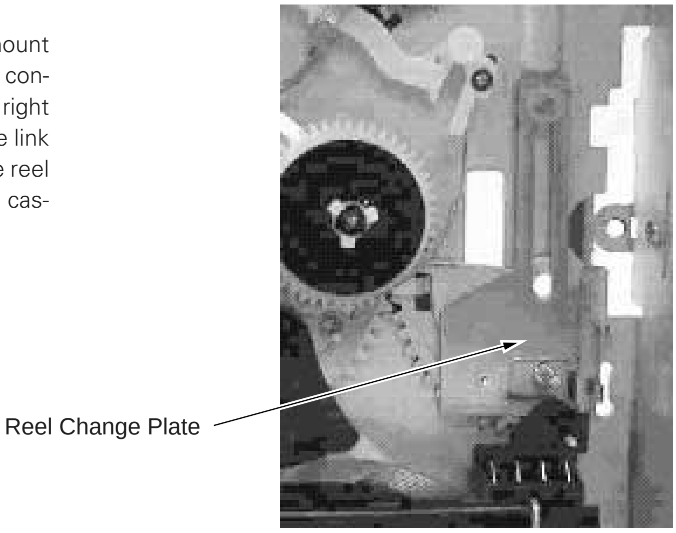


Fig. 4.2.4 Reel Change Plate

(2) Mini Cassette Incorrect Insertion Prevention Function

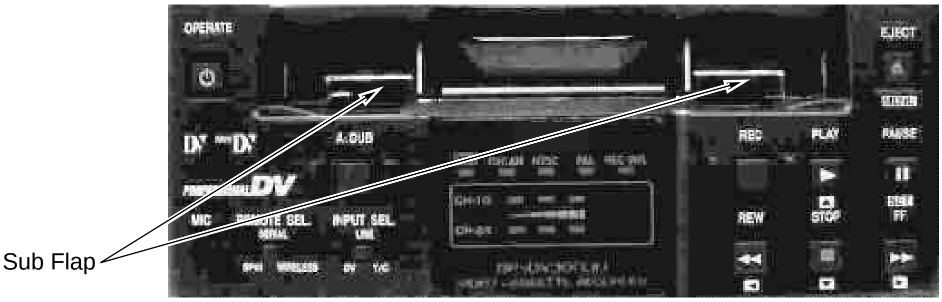


Fig. 4.2.5 Sub Flap

Sub flaps are attached on the cassette guide assembly located on the bottom end of the cassette housing door. These two sub flaps are designed to open when both are pressed simultaneously, and in the case of a mini cassette it is impossible for both to be pressed at the same time. So even if an inserted mini cassette touches against one of the sub flaps, the sub flaps will act as a brake to prevent erroneous loading of a mini cassette.

CAUTION

Even with standard cassettes, if the cassette is inserted skewed or diagonally offset in relation to the sub flaps, the sub flaps may not open and cassette insertion may not be possible. When inserting a standard cassette, be sure to insert so that the sides are parallel to the sub flaps.

(3) Intake/Eject Detection

Two housing switches (HW, HW2) are equipped on the front left side of the main deck. (See Fig. 4.2.6)

In the initial status in which no cassette is inserted (NO cassette mode), switch HW is pressed and switch HW2 is not pressed.

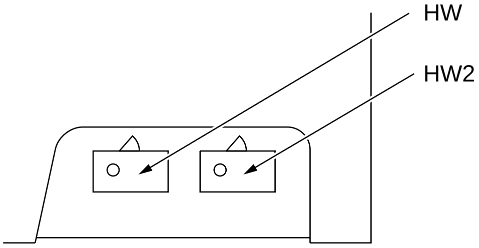


Fig. 4.2.6 Cassette Housing Switch

Mode	HW	HW2	S3
EJECT (Initial)	ON	OFF	OFF
INTAKE Detect	OFF	OFF	OFF
INTAKE END	OFF	OFF	ON
EJECT END	ON	ON	OFF

Table 4.2.1

Intake : When a cassette is inserted, the HW switch goes OFF, which causes detection of cassette insertion. After this the motor begins intake action.

Intake complete : When cassette intake is completed, in conjunction with the housing movement the main deck's switch lever slides, causing the MECHA board S3 (cassette switch) to be pressed, and intake completion is detected. (See Fig. 4.2.7)

Eject : When ejecting the cassette, both switches HW and HW2 are momentarily ON, and eject completion is detected. And from here, it returns to the initial status of switch HW=ON, HW2=OFF.

4.2.4 Switches

This is a description of how the various switches equipped on the mechanism operate, as shown in table 4.2.2.

Switch name	Operation	Location
HW	Cassette intake detection switch	Fig. 4.2.6
HW2	Cassette eject detection switch	Fig. 4.2.6
S1 (Mecha board)	Standard cassette detection switch	Fig. 4.2.7 ①
S2 (Mecha board)	SUP reel lock release switch*	Fig. 4.2.7 ②
S3 (Mecha board)	Cassette intake completion detection switch	Fig. 4.2.7 ③

Table 4.2.2 Switches

* Condition of SUP reel lock release switch operation :
After cassette intake, tape is pulled out of the take-up side for loading, but when a virgin tape is inserted it switches over to pull out from the supply side since it is not possible to pull out from the take-up side.
Immediately following tape intake completion, when the Begin sensor detects tape leader the cassette housing motor moves further to the loading side and, after the switches lever release the SUP brake, S2 is turned ON and brake release is detected.

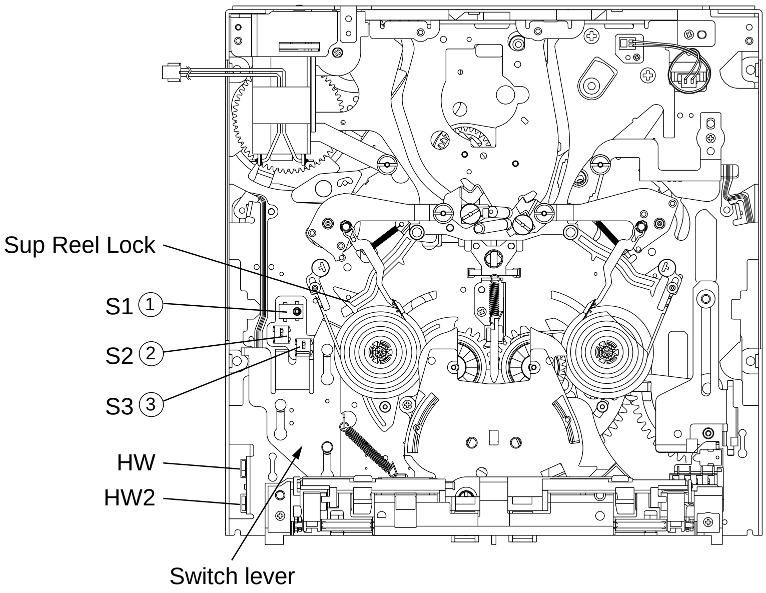


Fig. 4.2.7 Switch Location

4.2.5 Reel motor

The AG-DV2500 has adoped an independent one-reel motor, besides a capstan motor. As a result, quicker response when switching from Play to Reverse Search or Forward Search modes has been attained, greatly improving operability and the durability.

And as shown in table 4.2.3 the speeds of capstan search and FF/REW are also accelerated.

		AG-DV2500
CAPSTAN Search SPEED		Approx. 20X speed
FF/REW TIME	Mini (DVM60)	Under 75 sec.
	Standerd (DV270)	Under 200 sec.

Table 4.2.3

4.2.6 Tension

The AG-DV2500 have double tension control for supply/take-up.
The AG-DV2500 uses double tension control to regulate the tension differential caused by winding and modes used, obtaining a uniform tape tension for stable tape transport.

4.2.7 Mode sensor

The AG-DV2500's mode sensor adopts the variable resistor method (MECHA board VR1) which uses changes in resistance to detect the position of the mechanism. The changed voltage, brought about by changes in the resistance value due to mechanism position, is sent to DV/CPU IC302 to made to the A/D conversion. The mechanism position is judged by this.

Mode sensor voltage	Mechanism position	Mode
0.273 ± 0.03 V	UNLOAD END position	NO CASSETTE MODE
1.314 ± 0.03 V	BRAKE position	FF/REW → Modes in which tension band is used as brake for stopping
1.691 ± 0.03 V	FAST position	FF/REW MODE
2.111 ± 0.03 V	STOP position	STAND-BY OFF
2.716 ± 0.03 V	SEARCH position	PLAY/REC/SEARCH/STAND-BY ON

Table 4.2.4 Voltage and Mechanism Position Comparison

* Voltage figures shown are target values for software control, and may differ somewhat from the actual voltage. Please regard them as rough estimates.

4.3 SYSTEM CONTROL

4.3.1 Outline

The control system is comprised of the SYSCON CPU (IC2001) on the MAIN board assembly, and the VCR (MSD) CPU (IC302) on the DV/CPU board assembly. Both of these are connected by a bus called the MS_BUS, and communicate via serial data transfer

Communication type	Clock synchronous serial communication
Communication speed	1.68 Mbps
Data length	8bit x 25
Bit order	MSB head
Clock generation source	SYS CPU
Data direction	Full duplex

Table 4.3.1 MS_BUS Communication Settings

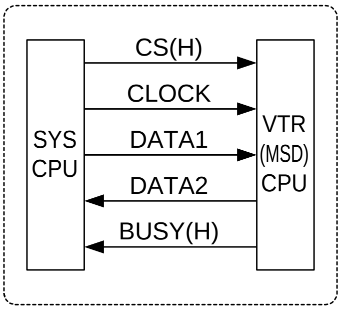


Fig. 4.3.1 MS BUS Connection

4.3.2 Communication specifications

(1) SYSCON CPU turns the CS from "L" → "H" and communication begins.
(2) SYSCON CPU confirms that the BUSY terminal is "L", and transmits data at CLOCK1.68MHz as well as receives data from the VCR (MSD) CPU.
(3) VCR (MSD) CPU also sends and receives data in accordance with CLK. However, if it is not yet ready for communication it sets the BUSY terminal to "H" and notifies the SYSCON CPU.
(4) When the BUSY terminal is "H", SYS CPU skips the current communication and waits until the next block (400 µs later) to see if it is "L" and then starts communication.
(5) After 25 Bytes are communicated, CS is set to "L" and communication ends.

4.3.3 Communication timing

In synchronization with internal reference sync, communication takes place once every 16.6 ms (NTSC) or 20 ms (PAL). Byte interval is 400 µs. When necessary the contents of the communication are changed at the 1st2nd field.

4.3.4 SYSCON (IC2001) CPU port functions

Pin No.	Port Name	Reference	I/O	Description
1	PE5	TP2004		Not used
2	PE6	HOUSING_SW	I	H : Insert cassette tape
3	PE7	CASS_SW	I	L : Complate to intake cassette tape
4	PD0	DAC_CS (H)	O	IC201 chip select
5	PD1	165_CS	O	IC2006/IC2007 chip select
6	PD2	4094_CS	O	IC3009/IC3010 chip select
7	PD3	AUD_DACTL_CS (L)	O	IC1006 (AUDIO DA) chip select
8	PD4	66311_DATA	O	IC2008 data
9	PD5	PON_MAIN (H)	O	
10	PD6	PON_UNIT (H)	O	
11	PD7	AUDREF12 (H)	O	Corresponds to audio level for consumer VTR.
12	CVCC	Power supply	+3V	
13	PC0	SDI	I	IC2006/IC2007 serial pin.
14	VSS	Power supply	GND	
15	PC1	S_DATA	O	IC2008/IC2010/IC201
16	PC2	S_CLK	O	IC2006/IC2008/IC2009/IC2010/IC201 clock
17	PC3	AUDIN_MUTE (H)	O	For muting the audio input
18	PC4	AUD_SYS_MUTE	O	For muting the audio output
19	PC5	AUDOUT_SMUT	O	For muting the search level
20	PC6	AUD_DACTL_CK	O	Audio DA clock
21	PC7	AUD_DACTL_DT	O	Audio DA data
22	PB0/TIOCA3	66311_CLK	O	IC208 clock
23	PB1/TIOCB3	66311_CSK	O	IC208 data
24	PB2/TIOCC3	WIRELESS_REM	I	Wireless remote input
25	PB3/TIOCD3	SERIAL_REM	I	Serial remote input
26	PB4/TIOCA4	NTSC (L)	O	VIDEO
27	PB5/TIOCB4	BWO (L)	O	VIDEO
28	PB6/TIOCA5	CPS (L)	O	VIDEO
29	PB7/TIOCB5	66311_RST	O	IC2008 RESET
30	PA0	ODD_EVEN	I	
31	PA1/TxD2	SYSCPU_TRXD	O	TCCS (For factory use)
32	PA2/RxD2	SYSCPU_TTXD	I	
33	PA3/SCK2	SYSCPU_TCK		YDC clock input
34	P10/TIOCA0	E2_DI	I	EEPROM
35	P11/TIOCB0	E2_DO	O	
36	P12/TIOCC0/TCLKA	E2_CLK	O	
37	P13/TIOCD0/TCLKB	E2_CS	O	
38	P14/TIOCA1/IRQ0	RTC_INT	I	RTC (Real time clock) IC2002
39	P15/TIOCB1/TCLKC	RTC_CS	O	
40	P16/TIOCA2/IRQ1	RTC_CLK	O	
41	P17/TIOCB2/TCLKD	RTC_SIO	I/O	
42	AVSS	Analog GND	GND	
43	P97/DA1			Not used
44	P96/DA0			Not used
45	P47/AN7			Not used
46	P46/AN6			Not used
47	P45/AN5			Not used
48	P44/AN4			Not used
49	P43/AN3	CIN_DC	I	
50	P42/AN2	LEVEL_DET_DC	I	Low battery detection

Pin No.	Port Name	Reference	I/O	Description
51	P41/AN1	METER_CH1	I	AUDIO indicator
52	P40/AN0	METER_CH2	I	
53	Vref	Analog reference	-	
54	AVCC	Analog power	+3V	
55	MD0	Mode terminal 0	I	Pullup (not used)
56	MD1	Mode terminal 1	I	Pullup (not used)
57	OSC2	Subclock (32.768kHz)	I	X2002
58	OSC1	Subclock (32.768kHz)	I	
59	RES	Reset input	I	From IC2004
60	NMI	NMI	I	Pullup (not used)
61	STBY	Standby	I	Pullup (not used)
62	VCC	Power	+3V	
63	XTAL	Clock	I	X2001
64	VSS	Power	GND	
65	EXTAL	External clock	I	X2001
66	FEW	Flush light enable	I	For Rewrite
67	MD2	Mode terminal 2	I	Operation mode setup
68	PF7/ϕ	System clock (TP2002)	O	
69	PF6	SWIN_NTSC	I	REAR NTSC/PAL slid SW
70	PF5	TP2021		Not used
71	PF4	FAN_STOP (H)	I	Not used
72	PF3/-ADTRG/IRQ3	OPERATE	I	Operate SW
73	PF2	EJECT	I	Pull-up from EJECT SW AL3V
74	PF1/BUZZ	TP2023	-	Not used
75	PF0/IRQ2	WAKE_UP	I	Start interrupt key input from standby mode
76	P30/TxD0	OSD_DATA	O	OSD (UART0)
77	P31/RxD0	OSD_CS	O	
78	P32/SCK0/SDA1/IRQ4	OSD_CLK	O	
79	P33/TxD1/SCL1	422_Tx	O	RS-422 (UART1)
80	P34/RxD1/SDA0	422_Rx	I	
81	P35/SCK1/SCL0/IRQ5	8029VD	I	IC208 CSYNC
82	P36	OSD_RST	O	OSD
83	P77/TxD3	MS_OUT	O	MS BUS (UART3)
84	P76/RxD3	MS_IN	I	
85	P75/TMO3/SCK3	MS_CLK	O	
86	P74/TMO2/MRES	SCR_LR	I	Not used
87	P73/TMO1	SCR_UD	I	Not used
88	P72/TMO0	V_MUTE	O	
89	P71/TMRI23/TMCI23	MSD_RESET		Reset output to VCR (MSD) microcomputer
90	P70/TMRI01/TMCI01	MSD_CS	O	Interface with VCR (MSD) microcomputer
91	PG0/IRQ6	SYS_OUTV	I	VIDEO V TIMING
92	PG1/IRQ7	SYS_INV	I	
93	PG2	MSD_READY	O	Interface with VCR (MSD) microcomputer
94	PG3	8029CS	O	IC208 control
95	PG4	8029CLK	O	
96	PE0	8029SDI	O	
97	PE1	8029SDO	I	
98	PE2	8029RST	O	
99	PE3	8029AMUTE	O	
100	PE4	V_PB (H)	O	VIDEO

Table 4.3.2 SYSCON Terminal Function

4.3.5 MSD CPU (IC302) port functions

Pin No.	Port Name	Reference	I/O	Description
1	ND	OPEN	-	Not used
2	ND	OPEN	-	Not used
3	VSS	D_GND	-	GND for digital
4	P01/D1	STD_CASS_SW	I	Standard cassette switch
5	P05/D5	START_SEL_2	O	Standard sensor sensibility selection
6	P11/D9	REEL_FWD_CTL	O	Reel motor direction control
7	NC (VDDF)	VOUT_25	I	Power for digital
8	VSS	D_GND	-	GND for digital
9	P26/D22/SBI1	EEPR_SDI	I	For EEPROM communication
10	P30/D24/SBT1	EEPR_SCL	O	For EEPROM communication
11	P35/D29/SBO3	MS_IN	O	Data for MS_BUS communication
12	P40/PWM1/TM0IO	DRUM_REF	O	DRUM_REF (MDA)
13	P51/IRQ1	DRUM_FG	I	DRUM_FG
14	P57/IRQ7	GND (10k)	O	Not used
15	NC (VDDF)	VOUT_25	I	Power for digital
16	P61/IRQ9	GNDÅi10kÅj	O	Not used
17 — 20	ND	OPEN	-	Not used
21	VDDH	AL_3VSYS	I	Power for digital
22	VOUT	VOUT_25	O	Power for VDD and VDDF
23	P14/D12	HOUSING_IN	O	Housing control
24	P03/D3	HOUSING2_SW	I	HW2/mini cassette eject switchs
25	P07/D7	END_SEL_2	O	End sensor sensibility
26	P13/D11	HOUSING_SW	I	Housing control
27	P20/D16/SBIB	CLN_SOL	O	Cleaner solenoid drive
28	P22/D18/SBTB	MSD_RDY	O	For MS_BUS communication
29	P32/D26/SBO2	LED_1SW	O	Front panel LED 1
30	VDDH	AL_3VSYS	I	Power for digital
31	VSS	D_GND	-	GND for digital
32	P53/IRQ3	GND (10k)	O	Not used
33	P25/D21/SBT0	MIC_3	O	CLK for cassette MIC communication
34	P33/D27/SBT2	EEPR_CS	O	For EEPROM communication
35	P63/IRQ11	GND (10k)	O	Not used
36	ND	OPEN	-	Not used
37	ND	OPEN	-	Not used
38	PU1/WE3/SRAS	OPEN	O	Not used
39	LON	AL_3VSYS (1k)	I	Use for regulator
40	NMIRQ	AL_3VSYS	O	Not used
41	VDDH	AL_3VSYS	I	Power for digital
42	P04/D4	START_SEL_1	O	Standard sensor sensibility selection
43	P06/D6	END_SEL_1	O	End sensor sensibility selection
44	P15/D13	HOUSING_OUT	O	Housing control
45	P17/D15	CAP_BRK	O	MDA control
46	NC (VSS)	D_GND	-	GND for digital
47	P23/D19/SBI0	MIC_1	O	For cassette MIC communication
48	P31/D25/SBI2	LED_2_SW	O	Front panel LED2
49	P37/D31/PWM0	CAP_REF	O	CAP_REF (MDA)
50	P41/PWM2/TM1IO	MECHA_REF	O	Mode/Housing motor control voltage
51	P43/PWM4	OPEN	O	Not used
52	P34/D28/SBI3	MS_OUT	I	Data for MS_VUS communication
53	P54/IRQ4	GND (10k)	O	Not used

Pin No.	Port Name	Reference	I/O	Description
54	P62/IRQ10	GND	O	Not used
55	P80/ICR0	DRUM_FG	I	DRUM_FG
56	P81/ICR1	CAP_FG	I	CAP_FG
57	PT2/SBT9	OPEN	O	Not used
58	PS1/SBO4	MDA_IN	O	For MDA communication
59	PU0/WE2/SCAS	OPEN	O	Not used
60	PS3/SBI5	OPEN	O	Not used
61	VOUT	VOUT_25	O	Power for VDD and VDDF
62	P00/D0	TAPE_LED	O	For TAPE_LED
63	VSS	D_GND	-	GND for digital
64	VDDH	AL_3VSYS	I	Power for digital
65	P16/D14	MECHA_VM_CTL	O	Switching the MECHA VM
66	P24/D20/SBO0	MIC_2	O	For cassette MIC communication
67	VSS	D_GND	-	GND for digital
68	P42/PWM3/TM2IO	REEL_REF	O	Reel motor control voltage
69	P55/IRQ5	GND (10k)	O	Not used
70	P52/IRQ2	DRUM_PG	I	DRUM_PG
71	P56/IRQ6	GND(10k)	O	Not used
72	P84/ICR4	SUP_REEL_SENSOR	I	SUP_REEL_SENSOR
73	VSS	D_GND	-	GND for digital
74	P60/IRQ8	GND (10k)	O	Not used
75	P83/ICR3	TU_REEL_SENSOR	I	TU_REEL_SENSOR
76	PS4/SBO5	OPEN	O	Not used
77	PT0/SBI9	OPEN	O	Not used
78	PR4/A23/KI4/SDCLKO	GND (10k)	O	Not used
79	PS5/SBT5	OPEN	O	Not used
80	PT1/SBO9	OPEN	O	Not used
81	VSS	D_GND	-	GND for digital
82	P02/D2	SP_LOCK_SW	I	SP lock detection switch
83	P10/D8	REEL_BRK	O	Reel motor brake
84	P12/D10	CASETTE_SW	I	CASSETTE SW
85	P21/D17/SBOB	A_MUTE	O	Audio mute
86	P27/D23/SBO1	EEPR_SDO	O	EEPROM communication
87	P36/D30/SBT3	MS_CLK	I	CLK for MS_BUS communication
88	P50/IRQ0	MSD CS	I	MSD CS
89	ND	OPEN	-	Not used
90	P90/ICR8	FRP	I	Interface with IC103
91	P82/ICR2	REEL_FG	I	Reel FG input
92	P86/ICR6	SRV_FRP	I	Interface with IC103
93	P85/ICR5	HID1	I	Interface with IC103
94	P87/ICR7	DET_VD	I	Analog input detection
95	PR6/A25/KI6	GND (10k)	O	Not used
96	PS2/SBT4	MDA_CLK	O	For MDA communication
97	VDDH	AL_3VSYS	I	Power for digital
98	VSS	D_GND	-	GND for digital
99 — 108	ND	OPEN	-	Not used
109	NC (VSS)	D_GND	-	GND for digital
110	VDD2	AL_3VSYS	I	Power for digital
111	P92/ICR10	SPA	I	Interface with IC103
112	VSS	D_GND	-	GND for digital

Pin No.	Port Name	Reference	I/O	Description
113	P91/ICR9	TSR	I	Interface with IC103
114	PR3/A22/KI3/SCKE	GND (10k)	O	Not used
115	PR5/A24/KI5/SDCLKI	GND (10k)	O	Not used
116	PQ2/A18	DV_RST	O	Interface with IC103
117	PS0/SBI4	MDA_CS	O	For MDA communication
118	PR7/KI7/PWM5	GND (10k)	O	Not used
119 — 127	ND	OPEN	-	Not used
128	PA1/SBO6	OPEN	O	Not used
129	P94/ICR12	SRV_TRK	I	Interface with IC103
130	PA3/SBI7	OPEN	O	Not used
131	PA0/SBI6	OPEN	O	Not used
132	PA2/SBT6	OPEN	O	Not used
133	PQ1/A17	CLK27SEL	O	Interface with IC103
134	PR0/A19/KI0	GND (10k)	O	Not used
135	PQ0/A16	NTSC_L	I	NTSC_L
136	PR2/A21/KI2/SWE	GND (10k)	O	Not used
137	PR1/A20/KI1	GND (10k)	O	Not used
138 — 146	ND	OPEN	-	Not used
147	PB3/WDOVF	OPEN	O	Not used
148	P93/ICR11	OUT_V	I	MVD0 (DVSYS)
149	PA5/SBT7	OPEN	O	Not used
150	PA4/SBO7	OPEN	O	Not used
151	PB2/IRQ14	OPEN	O	Not used
152	VSS	D_GND	-	GND for digital
153	PL5/PWM6	OPEN	O	Not used
154	PL4/TM7IO	V_MUTE	I	V MUTE (DVSYS)
155	PL3/TM6IO	OPEN	O	Not used
156	PL2/TM5IO	SCR_UD	O	Not used
157 — 165	ND	OPEN	-	Not used
166	PC3/SY0OT3	OPEN	-	Not used
167	PB0/IRQ12	OPEN	O	Not used
168	PB1/IRQ13	INV	I	ODD/EVEN distinguish
169	PB4/BR	OPEN	O	Not used
170	VSS	D_GND	-	GND for digital
171	PL0/TM3IO	OPEN	O	Not used
172	PK6/TM36IO	HID3	O	Interface with IC1
173	PL1/TM4IO	SCR_LR	O	Not used
174	PK4/TM34IO	PBH	O	Interface with IC1
175	PK3/TM33IO	REEL_LED	O	TU_REEL_LED
176 — 184	ND	OPEN	-	Not used
185	PC5/SY1OT1/SBO8	OPEN	O	Not used
186	PC0/SY0OT0	HID1	O	TO P/R IC1
187	PB5/BG	OPEN	O	Not used
188	PC2/SY0OT2	OPEN	-	Not used
189	PC4/SY1OT0/SBI8	OPEN	I	Not used
190	OSCI	Supply the external clock	I	40MHz
191	PK2/TM32IO	REC_SAFE	I	REC_SAFTY_SW
192	PK0/TM30IO	OPEN	O	Not used
193	VDD	VOUT_25	I	Power for digital
194	VSS	D_GND	-	GND for digital

Pin No.	Port Name	Reference	I/O	Description
195 — 203	ND	OPEN	-	Not used
204	VSS	D_GND	-	GND for digital
205	PD0/TM10IO	OPEN	O	Not used
206	PC1/SY0OT1	OPEN	-	Not used
207	VDD2	AL_3VSYS	I	Power for digital
208	PC6/SY1OT2/SBT8	OPEN	-	Not used
209	OSCO		O	40MHz
210	FRQS	VTR_TAUX	I	For rewrite
211	PK7/TM37IO	MONI_CHG	O	Interface with P/R
212	CKSEL	VTR_TTxD	I	For rewrite
213	MMOD1	VTR_TCK	I	For rewrite
214 — 222	ND	OPEN	-	Not used
223	NC (VSS)	D_GND	-	GND for digital
224	PE1/TM20IOB	GND (10k)	O	Not used
225	PC7/SY1OT3	OPEN	-	Not used
226	PD3/TM13IO	OPEN	O	Not used
227	PD2/TM12IO	OPEN	O	Not used
228	MMOD0	VTR_TRXD	I	For rewrite
229	PJ1/EXMOD1	VTR_TAUX3	I	For rewrite
230	PK5/TM35IO	REC_H	O	Interface with P/R
231	VDDH	AL_3VSYS	I	Power for digital
232	PVSS	A_GND	I	GND for analog
233 — 241	ND	OPEN	-	Not used
242	VDD	VOUT_25	I	Power for digital
243	PE7/TM23IOB	GND (10k)	O	Not used
244	PD1/TM11IO	OPEN	O	Not used
245	PE3/TM21IOB	FFREW_H	O	Not used
246	PD5/TM15IO	OPEN	O	Not used
247	PVDD	AL_3VSYS	I	Power for analog
248	PP7/ADM15/A15	ADM15	I/O	Interface with IC103
249	PK1/TM31IO	OPEN	O	Not used
250	RST	VTR_RESET	I	For rewrite
251 — 261	ND	OPEN	-	Not used
262	PE4/TM22IOA	GND (10k)	O	Not used
263	PD4/TM14IO	OPEN	O	Not used
264	PE5/TM22IOB	GND (10k)	O	Not used
265	VDD2	AL_3VSYS	I	Power for digital
266	PP5/ADM13/A13	ADM13	I/O	Interface with IC103
267	PP3/ADM11/A11	ADM11	I/O	Interface with IC103
268	PP4/ADM12/A12	ADM12	I/O	Interface with IC103
269	VSS	D_GND	-	GND for digital
270	VSS	D_GND	-	GND for digital
271	ND	OPEN	-	Not used
272	VDD	VOUT_25	I	Power for digital
273	VSS	D_GND	-	GND for digital
274	P70/AN24	GND (10k)	-	Not used
275	PI6/AN22	GND (10k)	-	Not used
276	PI0/AN16	GND (10k)	-	Not used
277	PH0/AN8	THERM_MSD	I	Temperature sensor
278	PG0/AN0	START_SENSOR	I	START_SENSOR

Pin No.	Port Name	Reference	I/O	Description
279	ND	OPEN	-	Not used
280	TRST	VSS (10k)	-	Not used
281	PF0/TM24IOA	OPEN	O	Not used
282	PE2/TM21IOA	DRUM_FG	O	DRUM_FG
283	PE0/TM20IOA	GND (10k)	O	Not used
284	PF1/TM24IOB	OPEN	O	Not used
285	PP1/ADM9/A9	ADM9	I/O	Interface with 3.5LSI
286	PJ0/EXMOD0	GND (10k)	I	Memory mode selection
287	PO4/ADM4/A4	ADM4	I/O	Interface with IC103
288	PO7/ADM7/A7	ADM7	I/O	Interface with IC103
289	PO1/ADM1/A1	ADM1	I/O	Interface with IC103
290	PN5/AS	DALE	O	Interface with IC103
291	PN4/DK	DV_WAIT	I	Interface with IC103
292	PM4/CS4	OPEN	O	Not used
293	VDDB	AL_3VSYS	I	Power for digital
294	PI4/AN20	GND (10k)	-	Not used
295	PI1/AN17	GND (10k)	-	Not used
296	PH1/AN9	REEL_CURENT	I	Reel motor current
297	PG1/AN1	END_SENSOR	I	E_SENSOR
298	VREFH	AL_3VSYS (for analog)	I	A/D GND (H)
299	VDD	VOUT_25	I	Power for digital
300	TMS	VDD2 (10k)	-	Not used
301	PE6/TM23IOA	GND (10k)	O	Not used
302	PF2/TM25IOA	OPEN	O	Not used
303	PF3/TM25IOB	GND (10k)	O	Not used
304	PP0/ADM8/A8	ADM8	I/O	Interface with IC103
305	PP6/ADM14/A14	ADM14	I/O	Interface with IC103
306	PP2/ADM10/A10	ADM10	I/O	Interface with IC103
307	PN3/RE	DRE	O	Interface with IC103
308	PN1/WE1/SDQM1	OPEN	O	Not used
309	PM2/CS2	DV_CS	O	Interface with IC103
310	PM5/RWSEL	RWSEL	O	Interface with IC103
311	PM0/CS0	OPEN	O	Not used
312	PI2/AN18	GND (10k)	-	Not used
313	PH6/AN14	EJECT_MSD	-	EJECT brings up
314	PH7/AN15	GND (10k)	-	Not used
315	PH4/AN12	GND (10k)	-	Not used
316	PH2/AN10	REEL_ECR	I	Reference value for reel torque control
317	PG4/AN4	MIC_2	I	AD for MIC IDBOARD detection
318	PG2/AN2	DEW_SENSOR	I	DEW_SENSOR
319	VREFL	A_GND	I	A/D GND (L)
320	PV1/SBOA	DAC_DATA	O	D/A control
321	TCK	VDD2 (10k)	-	Not used
322	TDI	VDD2 (10k)	-	Not used
323	ND	OPEN	-	Not used
324	ND	OPEN	-	Not used
325	VDDB	AL_3VSYS	I	Power for digital
326	PO2/ADM2/A2	ADM2	I/O	Interface with IC103
327	PO5/ADM5/A5	ADM5	I/O	Interface with IC103
328	VDD	VOUT_25	I	Power for digital

Pin No.	Port Name	Reference	I/O	Description
329	VSS	D_GND	-	GND for digital
330	PN0/WE0/SDQM0	DWE	O	Interface with IC103
331	PM1/CS1	OPEN	O	Not used
332	PI7/AN23	GND (10k)	-	Not used
333	PI3/AN19	GND (10k)	-	Not used
334	PH3/AN11	HOUS_CURRENT	I	Tension sensor
335	PG5/AN5	MIC_1	I	AD for MIC IDBOARD detection
336	AVDD	AL_3VSYS	I	Power for analog
337	VSS	D_GND	-	GND for digital
338	PG6/AN6	GND (10k)	-	Not used
339	PV2/SBTA	DAC_CLK	O	D/A control
340 — 343	ND	OPEN	-	Not used
344	PO6/ADM6/A6	ADM6	I/O	Interface with IC103
345	PO3/ADM3/A3	ADM3	I/O	Interface with IC103
346	VDDB	AL_3VSYS	I	Power for digital
347	PO0/ADM0/A0	ADM0	I/O	Interface with IC103
348	PN2/SYSCLK	OPEN	O	Not used
349	PM3/CS3	OPEN	O	Not used
350	VSS	D_GND	-	GND for digital
351	AVSS	A_GND	I	GND for analog
352	PI5/AN21	GND (10k)	-	Not used
353	PH5/AN13	GND (10k)	-	Not used
354	PG7/AN7	MODE_SENS	I	Mode sensor (mecha position)
355	PG3/AN3	MIC_3	I	AD for MIC IDBOARD detection
356	PV3/ADTRG	AL_3VSYS	-	Not used
357	PV0/SBIA	DAC_CS	O	D/A control
358	TDO	OPEN	-	Not used
359 — 360	ND	OPEN	-	Not used

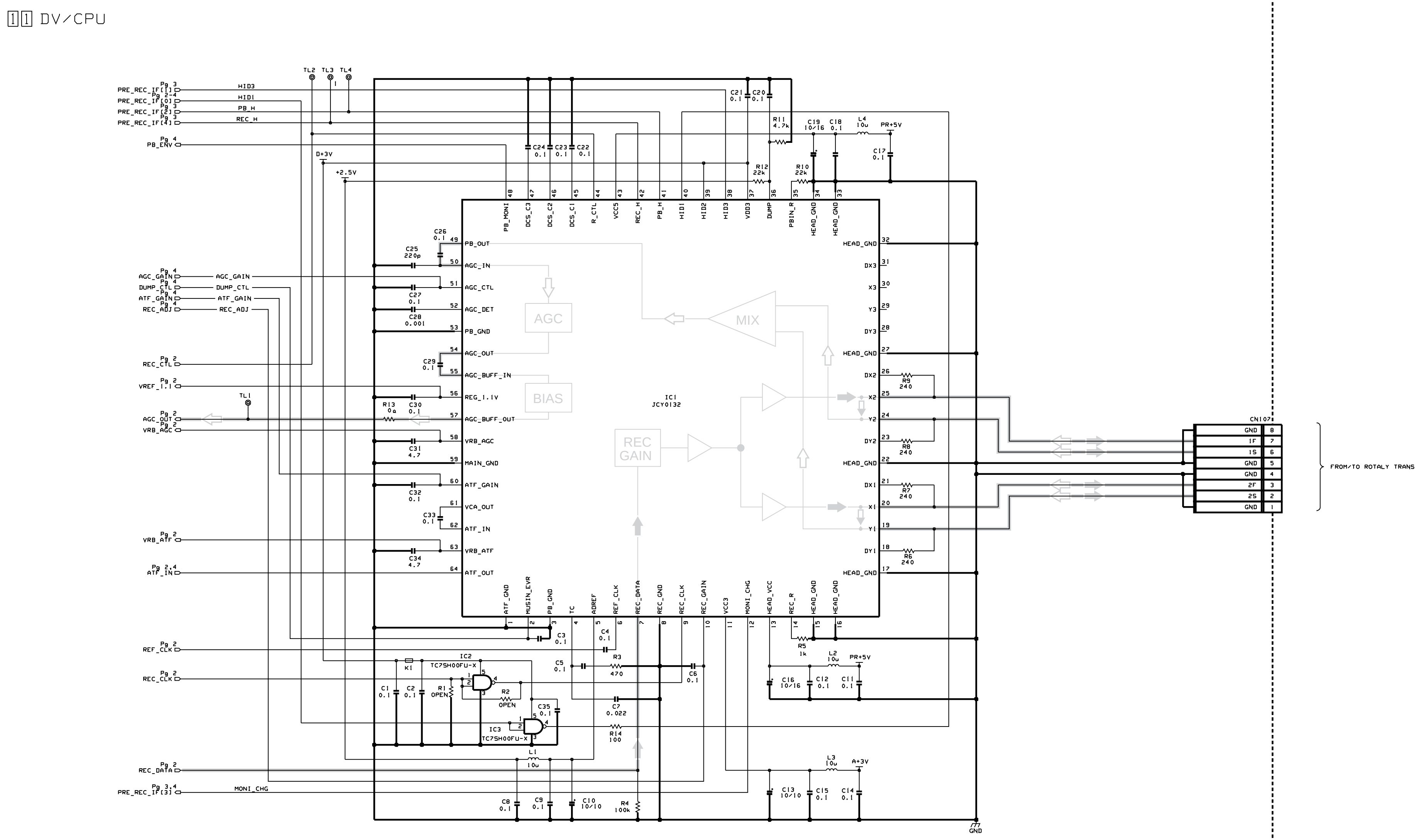
Table 4.3.3 MSD Terminal Function

4.3.6 RS-422A command list

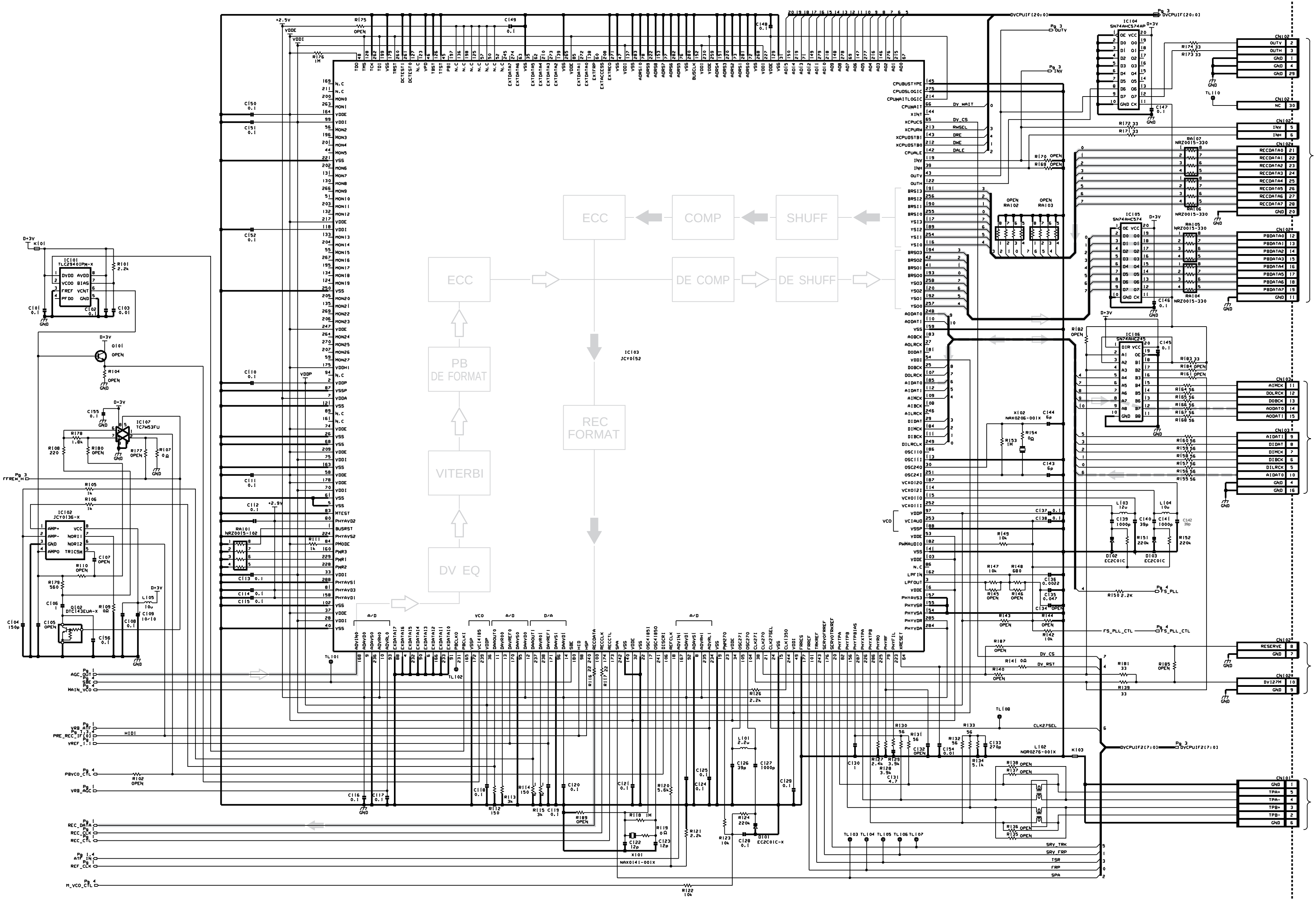
COMMAND FROM CONTROLLER					RETURN FROM			
CMD -1	Data Count	CMD -2	DATA -1	NAME	CMD -1	Data Count	CMD -2	NAME
0	0	0C	-	Local Disable	1	0	01	ACK
0	0	11	-	Device Type Request	1	2	11	Device Type
0	0	1D	-	Local Enable	1	0	01	ACK
2	0	00	-	Stop	1	0	01	ACK
2	0	01	-	Play	1	0	01	ACK
2	0	02	-	Rec	1	0	01	ACK
2	0	03	-	StillÅiJVC OnlyÅj	1	0	01	ACK
2	0	04	-	Standby Off	1	0	01	ACK
2	0	05	-	Standby On	1	0	01	ACK
2	0	0F	-	Eject	1	0	01	ACK
2	0	10	-	Fast Fwd	1	0	01	ACK
2	X	11	-	Jog Fwd	1	0	01	ACK (Switch to shuttle)
2	X	12	-	Var Fwd	1	0	01	ACK (Switch to shuttle)
2	X	13	-	Shuttle Fwd	1	0	01	ACK
2	0	20	-	Rewind	1	0	01	ACK
2	X	21	-	Jog Rev	1	0	01	ACK (Switch to shuttle)
2	X	22	-	Var Rev	1	0	01	ACK (Switch to shuttle)
2	X	23	-	Shuttle Rev	1	0	01	ACK
2	0	30	-	Preroll	1	0	01	ACK
2	4	31	-	Cue Up With Data	1	0	01	ACK
2	0	54	-	Anti-clog Timer Disable	1	0	01	ACK
2	0	55	-	Anti-clog Timer Enable	1	0	01	ACK
4	4	04	-	Time Code Preset	1	0	01	ACK
4	0	10	-	In Entry	1	0	01	ACK
4	4	14	-	In Data Preset	1	0	01	ACK
4	0	18	-	In + Shift	1	0	01	ACK
4	0	19	-	In - Shift	1	0	01	ACK
4	0	20	-	In Reset	1	0	01	ACK
4	0	24	-	In Recall	1	0	01	ACK
4	4	31	-	Preroll Time Preset	1	0	01	ACK
4	X	3E	-	Rec Inhibit Preset	1	0	01	ACK
6	1	0A	01	TC Gen Data Sense	7	4	08	Gen Time Data
6	1	0A	10	TC Gen Data Sense	7	4	09	Gen UB Data (UB: Fix to 0)
6	1	0A	11	TC Gen Data Sense	7	8	08	Gen TC & UB Data (UB: Fix to 0)
6	1	0C	01	Current Time Sense	7	4	04	TC (main) Data
6	1	0C	02	Current Time Sense	7	4	06	TC (main) Data
6	1	0C	03	Current Time Sense	7	4	04	TC (main) Data
6	1	0C	10	Current Time Sense	7	4	05	UB (main) Data (UB: Fix to 0)
6	1	0C	11	Current Time Sense	7	8	04	TC & UB (main) Data (UB: Fix to 0)
6	1	0C	20	Current Time Sense	7	4	07	UB (main) Data (UB: Fix to 0)
6	1	0C	22	Current Time Sense	7	8	06	TC & UB (main) Data (UB: Fix to 0)
6	1	0C	30	Current Time Sense	7	4	05	UB (main) Data (UB: Fix to 0)
6	1	0C	33	Current Time Sense	7	8	04	TC & UB (main) Data (UB: Fix to 0)
6	0	10	-	In Data Sense	7	4	10	In Data
6	1	20	-	Status Sense	7	X	20	Status Data
6	0	2B	-	Remain Time Sense	7	6	2B	Remain Data
6	0	31	-	Preroll Time Sense	7	3	31	Preroll Time Data
6	0	36	-	Timer Mode Sense	7	1	36	Timer Mode Data
6	0	3E	-	Rec Inhibit Sense	7	2	3E	Rec Inhibit Status

Table 4.3.4 RS-422A Command List

5.9 DV/CPU SCHEMATIC DIAGRAM 1/4


11 DV/CPU
PRE_REC_IF[1] Pg 3
PRE_REC_IF[0] Pg 2-4
PRE_REC_IF[2] Pg 3
PRE_REC_IF[4] Pg 3
PB_ENV Pg 4
HID3
HID1
PB_H
REC_H
TL2 TL3 TL4
D+3V
+2.5V
AGC_GAIN Pg 4
DUMP_CTL Pg 4
ATF_GAIN Pg 4
REC_ADJ Pg 4
REC_CTL Pg 2
VREF_1.1 Pg 2
AGC_OUT Pg 2
VRB_AGC Pg 2
TL1
VRB_ATF Pg 2
ATF_IN Pg 2,4
REF_CLK Pg 2
REC_CLK Pg 2
REC_DATA Pg 2
PRE_REC_IF[3] Pg 3,4
MONI_CHG
IC1
JCY0132
AGC
MIX
BIAS
REC GAIN
PB_OUT
AGC_IN
AGC_CTL
AGC_DET
PB_GND
AGC_OUT
AGC_BUFF_IN
REG_1.1V
AGC_BUFF_OUT
VRB_AGC
MAIN_GND
ATF_GAIN
VCA_OUT
ATF_IN
VRB_ATF
ATF_OUT
PB_MONI
DCS_C3
DCS_C2
DCS_C1
R_CTL
VCC5
REC_H
PB_H
HID1
HID2
HID3
VDD3
DUMP
PBIN_R
HEAD_GND
HEAD_GND
HEAD_GND
DX3
X3
Y3
DY3
HEAD_GND
DX2
X2
Y2
DY2
HEAD_GND
DX1
X1
Y1
DY1
HEAD_GND
ATF_GND
MUSIN_EVR
PB_GND
TC
ADREF
REF_CLK
REC_DATA
REC_GND
REC_CLK
REC_GAIN
VCC3
MONI_CHG
HEAD_VCC
REC_R
HEAD_GND
HEAD_GND
C21 0.1
C20 0.1
R11 4.7k
C19 10/16
C18 0.1
L4 10u
PR+5V
C17 0.1
C24 0.1
C23 0.1
C22 0.1
R12 22k
R10 22k
C26 0.1
C25 220p
C27 0.1
C28 0.001
C29 0.1
R13 0Ω
C30 0.1
C31 4.7
C32 0.1
C33 0.1
C34 4.7
R9 240
R8 240
R7 240
R6 240
CN107
GND 8
1F 7
1S 6
GND 5
GND 4
2F 3
2S 2
GND 1
FROM/TO ROTALY TRANS
C3 0.1
C4 0.1
R3 470
C5 0.1
C6 0.1
R5 1k
L2 10u
PR+5V
C16 10/16
C12 0.1
C11 0.1
IC2
TC7SH00FU-X
K1
C1 0.1
C2 0.1
R1 OPEN
R2 OPEN
C35 0.1
C7 0.022
IC3
TC7SH00FU-X
R14 100
L1 10u
L3 10u
A+3V
C8 0.1
C9 0.1
C10 10/10
R4 100k
C13 10/10
C15 0.1
C14 0.1
GND

DV/CPU SCHEMATIC DIAGRAM 2/4


IC103
JCY0152
ECC
COMP
SHUFF
ECC
DE COMP
DE SHUFF
PB
DE FORMAT
REC
FORMAT
VITERBI
DV EQ
IC101
TLC2940IPW-X
IC102
JCY0136-X
IC104
SN74AHC574APW
IC105
SN74AHC574
IC106
SN74AHC245
IC107
TC7W53FU
Q101
Q102
DTC143EUA-X
X101
NAX0141-001X
X102
NAX0206-001X
RA101
NRZ0015-102
RA102
NRZ0015-330
RA104
NRZ0015-330
RA105
NRZ0015-330
RA106
NRZ0015-330
D101
EC2C01C-X
D102
EC2C01C
D103
EC2C01C
L102
NQR0276-001X
DVCPUIF[20:0]
DVCPUIF2[7:0]
CN102
CN103
CN104
CN101
AGC_OUT
SBC
MAIN_VCO
VRB_ATF
PRE_REC_IF
VREF_1
PBVCO_CTL
VRB_AGC
REC_DATA
REC_CLK
REC_CTL
ATF_IN
REF_CLK
M_VCO_CTL
FREW_H
FS_PLL
FS_PLL_CTL
CLK27SEL
SRV_TRK
SRV_FRP
TSR
FRP
SPA
DV_CS
DV_RST

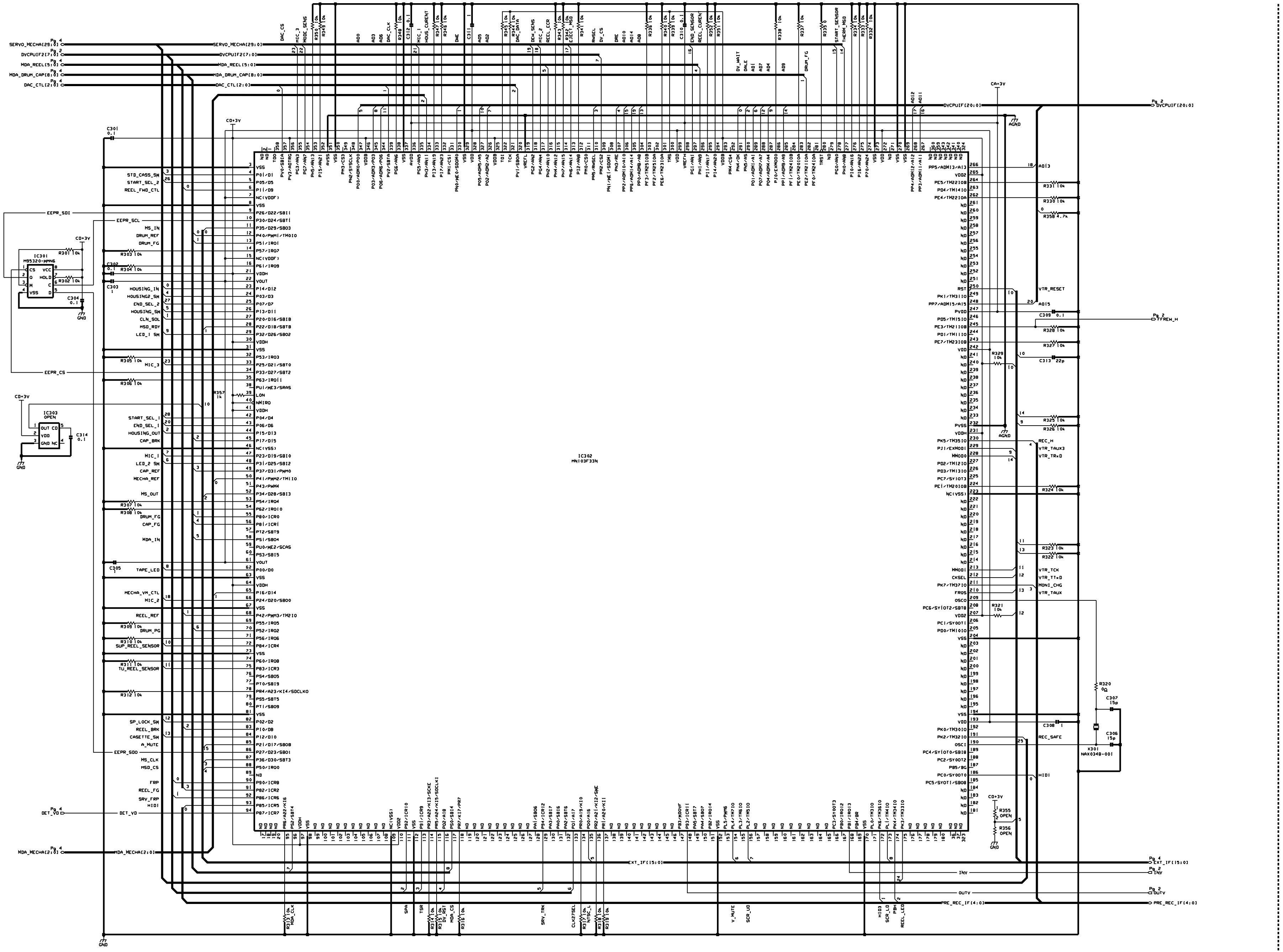
FROM/TO
01 MAIN
CN4003
(Page 5-12)

FROM/TO
01 MAIN
CN4002
(Page 5-12)

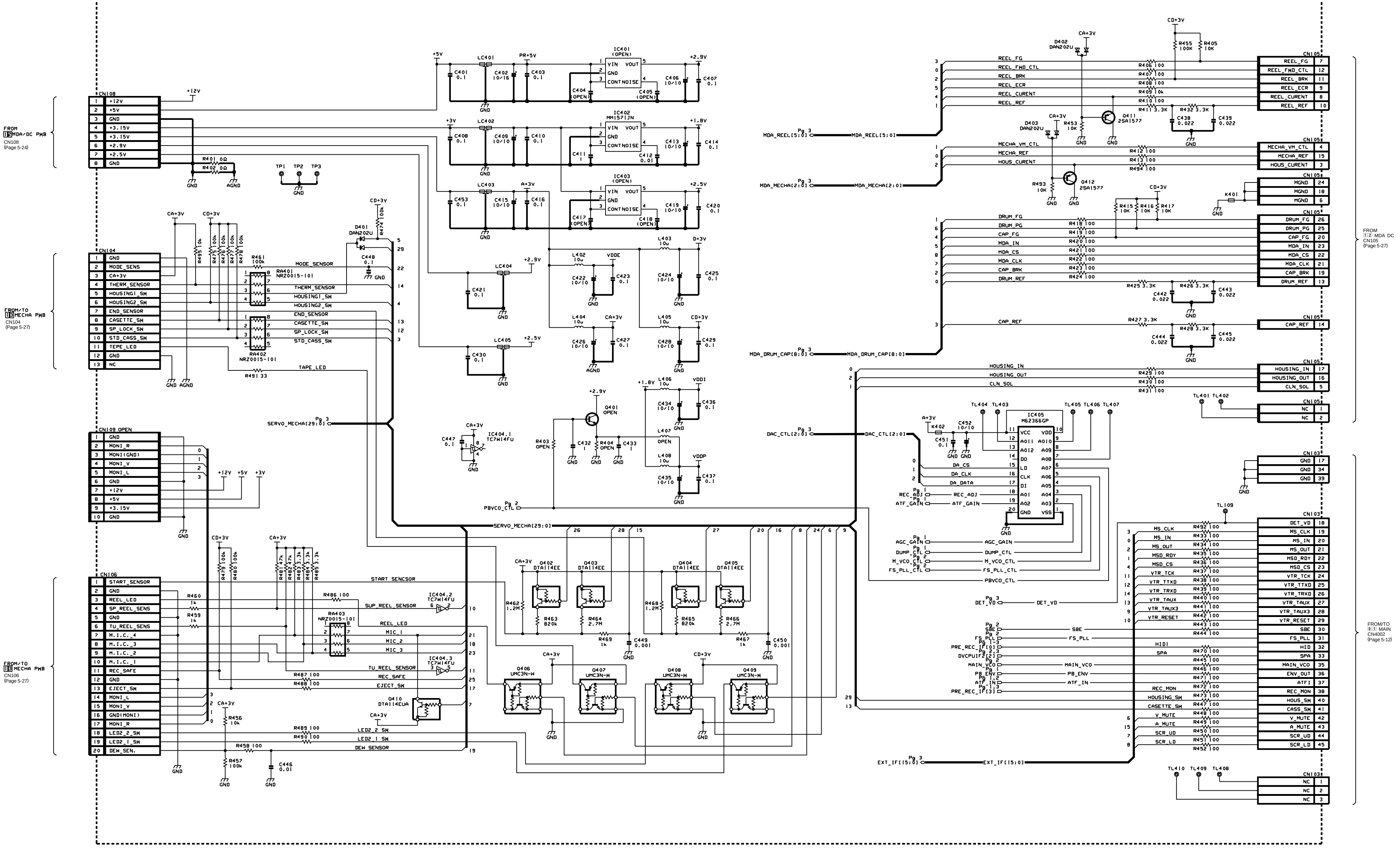
FROM/TO
01 MAIN
CN4003
(Page 5-12)

FROM/TO
03 DV CONN
CN201
(Page 5-25)

DV/CPU SCHEMATIC DIAGRAM 3/4

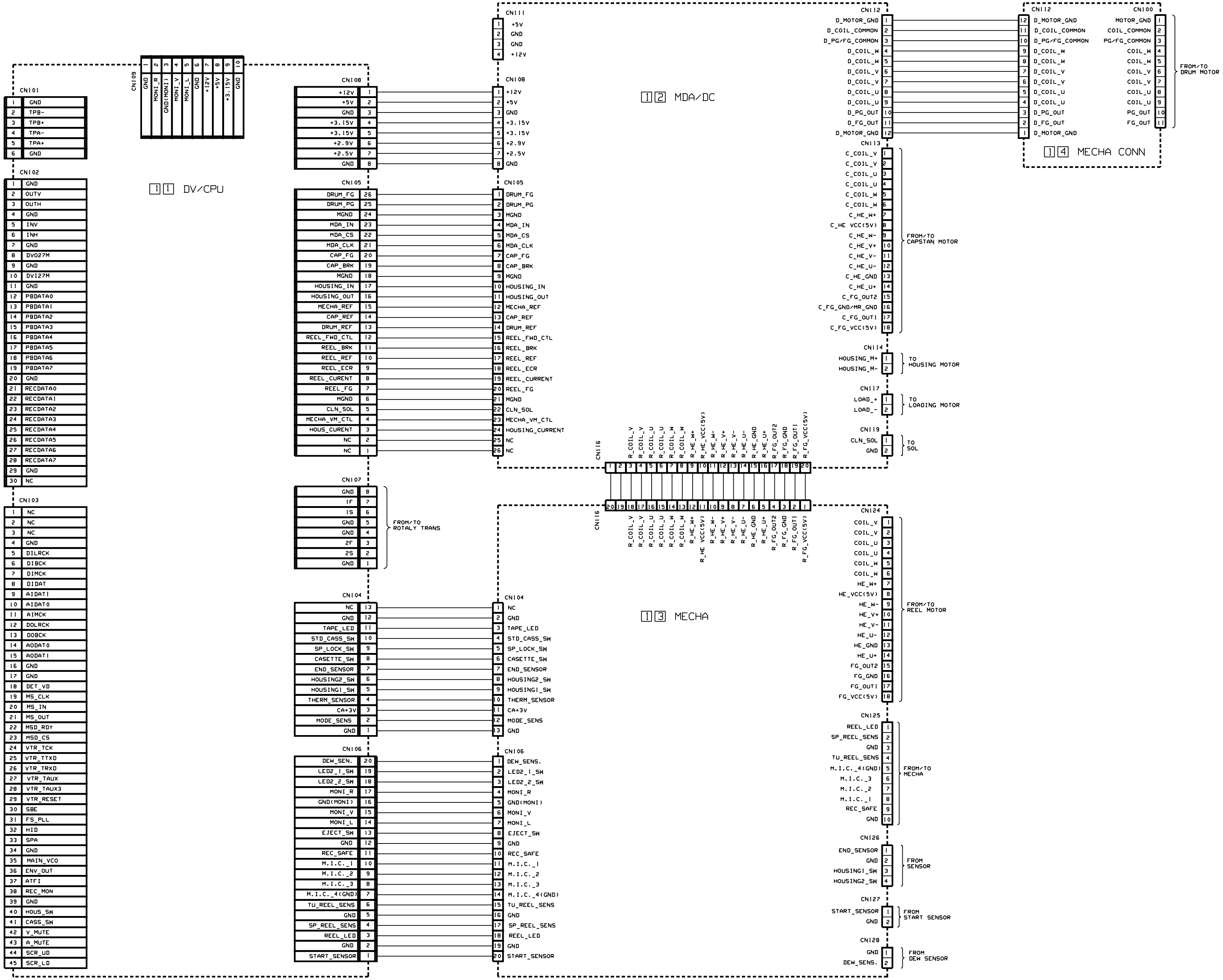

SERVO_MECHA[29:0]
DVCPUIF2[7:0]
MDA_REEL[5:0]
MDA_DRUM_CAP[8:0]
DAC_CTL[2:0]
Pg 4
Pg 2
C301 0.1
CD+3V
CA+3V
AGND
DVCPUIF[20:0]
Pg 2 DVCPUIF[20:0]
EEPR_SDI
EEPR_SCL
EEPR_CS
EEPR_SDO
IC301 M95320-MN6
IC303 OPEN
C314 0.1
IC302 MN103F33N
GND
STD_CASS_SW
START_SEL_2
REEL_FWD_CTL
MS_IN
DRUM_REF
DRUM_FG
HOUSING_IN
HOUSING2_SW
END_SEL_2
HOUSING_SW
CLN_SOL
MSD_RDY
LED_1 SW
MIC_3
START_SEL_1
END_SEL_1
HOUSING_OUT
CAP_BRK
MIC_1
LED_2 SW
CAP_REF
MECHA_REF
MS_OUT
CAP_FG
MDA_IN
TAPE_LED
MECHA_VM_CTL
MIC_2
REEL_REF
DRUM_PG
SUP_REEL_SENSOR
TU_REEL_SENSOR
SP_LOCK_SW
REEL_BRK
CASETTE_SW
A_MUTE
MS_CLK
MSD_CS
FRP
REEL_FG
SRV_FRP
HID1
DET_VD
MDA_MECHA[2:0]
EXT_IF[15:0]
INV
OUTV
PRE_REC_IF[4:0]
Pg 2 TFREW_H
VTR_RESET
AD15
AD13
REC_H
VTR_TAUX3
VTR_TxD
VTR_TCK
VTR_TTxD
MONI_CHG
VTR_TAUX
REC_SAFE
R320 0Ω
C307 15p
C306 15p
X301 NAX0348-001
R355 OPEN
R356 OPEN
MDA_CLK
SPA
TSR
DV_RST
MDA_CS
SPV_TRK
CLK27SEL
NTSC_L
V_MUTE
SCR_UD
HID3
SCR_LO
PBH
REEL_LED

DV/CPU SCHEMATIC DIAGRAM 4/4



FROM
①②MDA/DC PWB
CN108
(Page 5-24)
CN108
+12V
+5V
GND
+3.15V
+3.15V
+2.9V
+2.5V
GND
R401 0Ω
R402 0Ω
AGND
TP1 TP2 TP3
IC401 (OPEN)
IC402 MM1571JN
IC403 (OPEN)
VIN VOUT
GND
CONTNOISE
LC401 LC402 LC403 LC404 LC405
PR+5V
+2.9V
+1.8V
+2.5V
FROM/TO
①③MECHA PWB
CN104
(Page 5-27)
CN104
GND
MODE_SENS
CA+3V
THERM_SENSOR
HOUSING1_SN
HOUSING2_SN
END_SENSOR
CASETTE_SN
SP_LOCK_SN
STD_CASS_SN
TEPE_LED
GND
NC
RA401 NRZ0015-101
RA402 NRZ0015-101
R461 100k
D401 DAN202U
MODE_SENSOR
THERM_SENSOR
HOUSING1_SN
HOUSING2_SN
END_SENSOR
CASETTE_SN
SP_LOCK_SN
STD_CASS_SN
TAPE_LED
R491 33
CN109 OPEN
GND
MONI_R
MONI(GND)
MONI_V
MONI_L
GND
+12V
+5V
+3.15V
GND
Pg 3
SERVO_MECHA[29:0]
IC404.1 TC7W14FU
Q401 OPEN
R403 OPEN
R404 OPEN
VDDE
VDDI
VDDP
D+3V
CD+3V
CA+3V
L402 L403 L404 L405 L406 L407 L408
Pg 2
PBVCO_CTL
SERVO_MECHA[29:0]
FROM/TO
①③MECHA PWB
CN106
(Page 5-27)
CN106
START_SENSOR
GND
REEL_LED
SP_REEL_SENS
GND
TU_REEL_SENS
M.I.C._4
M.I.C._3
M.I.C._2
M.I.C._1
REC_SAFE
GND
EJECT_SW
MONI_L
MONI_V
GND(MONI)
MONI_R
LED2_2_SN
LED2_1_SN
DEW_SEN.
START SENCSOR
SUP_REEL_SENSOR
REEL_LED
MIC_1
MIC_2
MIC_3
TU_REEL_SENSOR
REC_SAFE
EJECT_SW
LED2_2_SN
LED2_1_SN
DEW_SENSOR
RA403 NRZ0015-101
IC404.2 TC7W14FU
IC404.3 TC7W14FU
Q410 DTA114EUA
Q402 DTA114EE
Q403 DTA114EE
Q404 DTA114EE
Q405 DTA114EE
Q406 UMC3N-W
Q407 UMC3N-W
Q408 UMC3N-W
Q409 UMC3N-W
Pg 3
MDA_REEL[5:0]
REEL_FG
REEL_FWD_CTL
REEL_BRK
REEL_ECR
REEL_CURENT
REEL_REF
D402 DAN202U
D403 DAN202U
Q411 2SA1577
Q412 2SA1577
Pg 3
MDA_MECHA[2:0]
MECHA_VM_CTL
MECHA_REF
HOUS_CURENT
MGND
K401
DRUM_FG
DRUM_PG
CAP_FG
MDA_IN
MDA_CS
MDA_CLK
CAP_BRK
DRUM_REF
CAP_REF
Pg 3
MDA_DRUM_CAP[8:0]
HOUSING_IN
HOUSING_OUT
CLN_SOL
CN105
FROM
①② MDA DC
CN105
(Page 5-27)
TL401 TL402
NC
TL404 TL403 TL405 TL406 TL407
IC405 M62366GP
VCC VDD
AO11 AO10
AO12 AO9
DO AO8
LD AO7
CLK AO6
DI AO5
AO1 AO4
AO2 AO3
GND VSS
Pg 3
DAC_CTL[2:0]
DA_CS
DA_CLK
DA_DATA
Pg 1
REC_ADJ
ATF_GAIN
AGC_GAIN
DUMP_CTL
M_VCO_CTL
FS_PLL_CTL
PBVCO_CTL
DET_VD
SBE
FS_PLL
PRE_REC_IF[0]
DVCPUIF2[2]
MAIN_VCO
PB_ENV
ATF_IN
PRE_REC_IF[3]
Pg 3
EXT_IF[5:0]
TL109
CN103
DET_VD
MS_CLK
MS_IN
MS_OUT
MSD_RDY
MSD_CS
VTR_TCK
VTR_TTXD
VTR_TRXD
VTR_TAUX
VTR_TAUX3
VTR_RESET
SBE
FS_PLL
HID1
SPA
MAIN_VCO
ENV_OUT
ATF1
REC_MON
HOUS_SW
CASS_SW
V_MUTE
A_MUTE
SCR_UD
SCR_LD
HOUSING_SW
CASETTE_SW
TL410 TL409 TL408
FROM/TO
⑧① MAIN
CN4002
(Page 5-12)

5.6 DV UNIT OVERALL WIRING DIAGRAM



1 1 DV/CPU
CN101
1 GND
2 TPB-
3 TPB+
4 TPA-
5 TPA+
6 GND
CN102
1 GND
2 OUTV
3 OUTH
4 GND
5 INV
6 INH
7 GND
8 DVO27M
9 GND
10 DVI27M
11 GND
12 PBDATA0
13 PBDATA1
14 PBDATA2
15 PBDATA3
16 PBDATA4
17 PBDATA5
18 PBDATA6
19 PBDATA7
20 GND
21 RECDATA0
22 RECDATA1
23 RECDATA2
24 RECDATA3
25 RECDATA4
26 RECDATA5
27 RECDATA6
28 RECDATA7
29 GND
30 NC
CN103
1 NC
2 NC
3 NC
4 GND
5 DILRCK
6 DIBCK
7 DIMCK
8 DIDAT
9 AIDAT1
10 AIDAT0
11 AIMCK
12 DOLRCK
13 DOBCK
14 AODAT0
15 AODAT1
16 GND
17 GND
18 DET_VD
19 MS_CLK
20 MS_IN
21 MS_OUT
22 MSD_RDY
23 MSD_CS
24 VTR_TCK
25 VTR_TTXD
26 VTR_TRXD
27 VTR_TAUX
28 VTR_TAUX3
29 VTR_RESET
30 SBE
31 FS_PLL
32 HID
33 SPA
34 GND
35 MAIN_VCO
36 ENV_OUT
37 ATFI
38 REC_MON
39 GND
40 HOUS_SW
41 CASS_SW
42 V_MUTE
43 A_MUTE
44 SCR_UD
45 SCR_LD
CN109
1 GND
2 MONI_R
3 GND(MONI)
4 MONI_V
5 MONI_L
6 GND
7 +12V
8 +5V
9 +3.15V
10 GND
CN108
+12V 1
+5V 2
GND 3
+3.15V 4
+3.15V 5
+2.9V 6
+2.5V 7
GND 8
CN105
DRUM_FG 26
DRUM_PG 25
MGND 24
MDA_IN 23
MDA_CS 22
MDA_CLK 21
CAP_FG 20
CAP_BRK 19
MGND 18
HOUSING_IN 17
HOUSING_OUT 16
MECHA_REF 15
CAP_REF 14
DRUM_REF 13
REEL_FWD_CTL 12
REEL_BRK 11
REEL_REF 10
REEL_ECR 9
REEL_CURENT 8
REEL_FG 7
MGND 6
CLN_SOL 5
MECHA_VM_CTL 4
HOUS_CURENT 3
NC 2
NC 1
CN107
GND 8
IF 7
IS 6
GND 5
GND 4
2F 3
2S 2
GND 1
FROM/TO ROTALY TRANS
CN104
NC 13
GND 12
TAPE_LED 11
STD_CASS_SW 10
SP_LOCK_SW 9
CASETTE_SW 8
END_SENSOR 7
HOUSING2_SW 6
HOUSING1_SW 5
THERM_SENSOR 4
CA+3V 3
MODE_SENS 2
GND 1
CN106
DEW_SEN. 20
LED2_1_SW 19
LED2_2_SW 18
MONI_R 17
GND(MONI) 16
MONI_V 15
MONI_L 14
EJECT_SW 13
GND 12
REC_SAFE 11
M.I.C._1 10
M.I.C._2 9
M.I.C._3 8
M.I.C._4(GND) 7
TU_REEL_SENS 6
GND 5
SP_REEL_SENS 4
REEL_LED 3
GND 2
START_SENSOR 1
1 2 MDA/DC
CN111
1 +5V
2 GND
3 GND
4 +12V
CN108
1 +12V
2 +5V
3 GND
4 +3.15V
5 +3.15V
6 +2.9V
7 +2.5V
8 GND
CN105
1 DRUM_FG
2 DRUM_PG
3 MGND
4 MDA_IN
5 MDA_CS
6 MDA_CLK
7 CAP_FG
8 CAP_BRK
9 MGND
10 HOUSING_IN
11 HOUSING_OUT
12 MECHA_REF
13 CAP_REF
14 DRUM_REF
15 REEL_FWD_CTL
16 REEL_BRK
17 REEL_REF
18 REEL_ECR
19 REEL_CURRENT
20 REEL_FG
21 MGND
22 CLN_SOL
23 MECHA_VM_CTL
24 HOUSING_CURRENT
25 NC
26 NC
CN112
D_MOTOR_GND 1
D_COIL_COMMON 2
D_PG/FG_COMMON 3
D_COIL_W 4
D_COIL_W 5
D_COIL_V 6
D_COIL_V 7
D_COIL_U 8
D_COIL_U 9
D_PG_OUT 10
D_FG_OUT 11
D_MOTOR_GND 12
CN113
C_COIL_V 1
C_COIL_V 2
C_COIL_U 3
C_COIL_U 4
C_COIL_W 5
C_COIL_W 6
C_HE_W+ 7
C_HE VCC(5V) 8
C_HE_W- 9
C_HE_V+ 10
C_HE_V- 11
C_HE_U- 12
C_HE_GND 13
C_HE_U+ 14
C_FG_OUT2 15
C_FG_GND/MR_GND 16
C_FG_OUT1 17
C_FG_VCC(5V) 18
FROM/TO CAPSTAN MOTOR
CN114
HOUSING_M+ 1
HOUSING_M- 2
TO HOUSING MOTOR
CN117
LOAD_+ 1
LOAD_- 2
TO LOADING MOTOR
CN119
CLN_SOL 1
GND 2
TO SOL
CN112
12 D_MOTOR_GND
11 D_COIL_COMMON
10 D_PG/FG_COMMON
9 D_COIL_W
8 D_COIL_W
7 D_COIL_V
6 D_COIL_V
5 D_COIL_U
4 D_COIL_U
3 D_PG_OUT
2 D_FG_OUT
1 D_MOTOR_GND
CN100
MOTOR_GND 1
COIL_COMMON 2
PG/FG_COMMON 3
COIL_W 4
COIL_W 5
COIL_V 6
COIL_V 7
COIL_U 8
COIL_U 9
PG_OUT 10
FG_OUT 11
FROM/TO DRUM MOTOR
1 4 MECHA CONN
CN116
1
2
3 R_COIL_V
4 R_COIL_V
5 R_COIL_U
6 R_COIL_U
7 R_COIL_W
8 R_COIL_W
9 R_HE_W+
10 R_HE_VCC(5V)
11 R_HE_W-
12 R_HE_V+
13 R_HE_V-
14 R_HE_U-
15 R_HE_GND
16 R_HE_U+
17 R_FG_OUT2
18 R_FG_GND
19 R_FG_OUT1
20 R_FG_VCC(5V)
CN116
20
19
18 R_COIL_V
17 R_COIL_V
16 R_COIL_U
15 R_COIL_U
14 R_COIL_W
13 R_COIL_W
12 R_HE_W+
11 R_HE VCC(5V)
10 R_HE_W-
9 R_HE_V+
8 R_HE_V-
7 R_HE_U-
6 R_HE_GND
5 R_HE_U+
4 R_FG_OUT2
3 R_FG_GND
2 R_FG_OUT1
1 R_FG_VCC(5V)
1 3 MECHA
CN104
1 NC
2 GND
3 TAPE_LED
4 STD_CASS_SW
5 SP_LOCK_SW
6 CASETTE_SW
7 END_SENSOR
8 HOUSING2_SW
9 HOUSING1_SW
10 THERM_SENSOR
11 CA+3V
12 MODE_SENS
13 GND
CN106
1 DEW_SENS.
2 LED2_1_SW
3 LED2_2_SW
4 MONI_R
5 GND(MONI)
6 MONI_V
7 MONI_L
8 EJECT_SW
9 GND
10 REC_SAFE
11 M.I.C._1
12 M.I.C._2
13 M.I.C._3
14 M.I.C._4(GND)
15 TU_REEL_SENS
16 GND
17 SP_REEL_SENS
18 REEL_LED
19 GND
20 START_SENSOR
CN124
COIL_V 1
COIL_V 2
COIL_U 3
COIL_U 4
COIL_W 5
COIL_W 6
HE_W+ 7
HE_VCC(5V) 8
HE_W- 9
HE_V+ 10
HE_V- 11
HE_U- 12
HE_GND 13
HE_U+ 14
FG_OUT2 15
FG_GND 16
FG_OUT1 17
FG_VCC(5V) 18
FROM/TO REEL MOTOR
CN125
REEL_LED 1
SP_REEL_SENS 2
GND 3
TU_REEL_SENS 4
M.I.C._4(GND) 5
M.I.C._3 6
M.I.C._2 7
M.I.C._1 8
REC_SAFE 9
GND 10
FROM/TO MECHA
CN126
END_SENSOR 1
GND 2
HOUSING1_SW 3
HOUSING2_SW 4
FROM SENSOR
CN127
START_SENSOR 1
GND 2
FROM START SENSOR
CN128
GND 1
DEW_SENS. 2
FROM DEW SENSOR

ELECTRICAL REPLACEMENT PARTS LIST

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
■	LK1173B0C	MAIN P.C.BOARD	1	(RTL)
■	LK2129B0A1	FRONT P.C.BOARD	1	(RTL)
■	LK2129B0A2	DVCONN P.C.BOARD	1	(RTL)
■	LK2129B0A3	MIC P.C.BOARD	1	(RTL)
■	LK2125-D0B	DV/CPU P.C.BOARD	1	(RTL)
■	LK2124B0B	MDA/DC P.C.BOARD	1	(RTL)
■	LK2123A0A1	MECHA P.C.BOARD	1	(RTL)
■	LK2123B0A2	MECHA CONN P.C.BOARD	1	(RTL)
■	LK1173B0C	MAIN P.C.BOARD	1	(RTL)
BT2001	QAB0020-001	LI BATTERY	1	
C1,C2	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C3,C4	NEH90JM-107X	E.CAPACITOR 6.3V 100U	2	
C5,C6	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C7	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C8	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C9	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C10	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C12	NDC31HJ-150X	C.CAPACITOR 50V 15P	1	
C13	NDC31HJ-3R0X	C.CAPACITOR 50V 3P	1	
C14-16	NCB11AK-106X	C.CAPACITOR 10V 10U	3	
C17	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C18	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C19	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C20,21	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C22	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C23,24	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C25	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C26,27	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C28	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C29-34	NCB31CK-104X	C.CAPACITOR 16V 0.1U	6	
C35	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C36	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C37	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C38-40	NCB31CK-104X	C.CAPACITOR 16V 0.1U	3	
C41	NDC31HJ-102X	C.CAPACITOR 50V 1000P	1	
C42,43	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C44	NBE21CM-105X	T.CAPACITOR 16V 1U	1	
C45	NBE21CM-475X	T.CAPACITOR 16V 4.7U	1	
C46,47	NCB31CK-473X	C.CAPACITOR 16V 0.047U	2	
C48	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C49,50	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C51	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C52-54	NCB31HK-103X	C.CAPACITOR 50V 0.01U	3	
C55	NDC31HJ-102X	C.CAPACITOR 50V 1000U	1	
C56	NBE21CM-105X	T.CAPACITOR 16V 1U	1	
C57	NDC31HJ-102X	C.CAPACITOR 50V 1000U	1	
C58	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C59	NCB31CK-473X	C.CAPACITOR 16V 0.047U	1	
C60	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C61	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C62	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C63	NBE51AM-476X	T.CAPACITOR 10V 47U	1	
C64	NDC31HJ-150X	C.CAPACITOR 50V 15P	1	
C65	NDC31HJ-102X	C.CAPACITOR 50V 1000U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C66	NDC31HJ-8R0X	C.CAPACITOR 50V 8P	1	
C67,68	NDC31HJ-102X	C.CAPACITOR 50V 1000U	2	
C69	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C70	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C71-73	NCB31CK-104X	C.CAPACITOR 16V 0.1U	3	
C74,75	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C76	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C77,78	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C79	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C80	NDC31HJ-271X	C.CAPACITOR 50V 270P	1	
C81	NDC31HJ-121X	C.CAPACITOR 50V 120P	1	
C82	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C83	NDC31HJ-100X	C.CAPACITOR 50V 10P	1	
C84,85	NDC31HJ-120X	C.CAPACITOR 50V 12P	2	
C86	NDC31HJ-8R0X	C.CAPACITOR 50V 8P	1	
C88,89	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C90	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C91,92	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C93	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C94	NDC31HJ-100X	C.CAPACITOR 50V 10P	1	
C95	NDC31HJ-120X	C.CAPACITOR 50V 12P	1	
C96	NDC31HJ-8R0X	C.CAPACITOR 50V 8P	1	
C97	NDC31HJ-120X	C.CAPACITOR 50V 12P	1	
C98	NDC31HJ-100X	C.CAPACITOR 50V 10P	1	
C99,00	NDC31HJ-101X	C.CAPACITOR 50V 100P	2	
C101	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C102,03	NDC31HJ-150X	C.CAPACITOR 50V 15P	2	
C104	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C105	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C106	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C114	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C115	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C117	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C118,19	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C120	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C131,32	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C133-35	NCB11AK-106X	C.CAPACITOR 10V 10U	3	
C136	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C137	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C138	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C152	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C156	NDC31HJ-220X	C.CAPACITOR 50V 22P	1	
C170,71	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C203,04	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C205	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C206	NCB11AK-475X	C.CAPACITOR 10V 4.7U	1	
C207,08	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C209	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C210	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C211	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C212	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C213	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C214,15	NEH91EM-475X	E.CAPACITOR 25V 4.7U	2	
C216	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C217-19	NCB31HK-103X	C.CAPACITOR 50V 0.01U	3	
C221	NEH91EM-475X	E.CAPACITOR 25V 4.7U	1	
C222	NBE21CM-475X	T.CAPACITOR 16V 4.7U	1	
C229	NCB11AK-106X	C.CAPACITOR 10V 10U	1	
C233,34	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C235	NDC31HJ-101X	C.CAPACITOR 50V 100P	1	
C236	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C237	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C238	NDC31HJ-150X	C.CAPACITOR 50V 15P	1	
C239	NDC31HJ-8R0X	C.CAPACITOR 50V 8P	1	
C240	NDC31HJ-390X	C.CAPACITOR 50V 39P	1	
C241	NDC31HJ-330X	C.CAPACITOR 50V 33P	1	
C242	NCB11AK-106X	C.CAPACITOR 10V 10P	1	
C243	NDC31HJ-330X	C.CAPACITOR 50V 33P	1	
C245	NCB11AK-475X	C.CAPACITOR 10V 4.7P	1	
C248,49	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C253,54	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C255	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C256,57	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C258	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C259,60	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C261	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C262,63	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C264,65	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C267	NDC31HJ-150X	C.CAPACITOR 50V 15P	1	
C268	NDC31HJ-8R0X	C.CAPACITOR 50V 8P	1	
C269	NDC31HJ-390X	C.CAPACITOR 50V 39P	1	
C270	NDC31HJ-330X	C.CAPACITOR 50V 33P	1	
C271,72	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C275	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C277,78	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C279	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C280,81	NEH90JM-107X	E.CAPACITOR 6.3V 100U	2	
C282,83	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C284	NDC31HJ-220X	C.CAPACITOR 50V 22P	1	
C288	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C291	NDC31HJ-330X	C.CAPACITOR 50V 33P	1	
C292	NDC31HJ-390X	C.CAPACITOR 50V 39P	1	
C293	NDC31HJ-150X	C.CAPACITOR 50V 15P	1	
C294	NDC31HJ-8R0X	C.CAPACITOR 50V 8P	1	
C295	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C296,97	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C298	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C299,00	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C301,02	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C304-06	NCB31CK-104X	C.CAPACITOR 16V 0.1U	3	
C307	NDC31HJ-6R0X	C.CAPACITOR 50V 6P	1	
C308	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C312	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C313	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C314	NDC31HJ-330X	C.CAPACITOR 50V 33P	1	
C315	NDC31HJ-390X	C.CAPACITOR 50V 39P	1	
C316	NDC31HJ-120X	C.CAPACITOR 50V 12P	1	
C317	NDC31HJ-8R0X	C.CAPACITOR 50V 8P	1	
C319	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C320,21	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C322	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C323-25	NCB31HK-103X	C.CAPACITOR 50V 0.01U	3	
C326	NEH90JM-107X	E.CAPACITOR 6.3V 100U	1	
C327	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C328-31	NCB31CK-104X	C.CAPACITOR 16V 0.1U	4	
C333-36	NCB31CK-104X	C.CAPACITOR 16V 0.1U	4	
C338,39	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C340	NCB11AK-475X	C.CAPACITOR 10V 4.7U	1	
C341	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C342	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C343	NCB11AK-475X	C.CAPACITOR 10V 4.7U	1	
C344-48	NCB31CK-104X	C.CAPACITOR 16V 0.1U	5	
C349,50	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C351	NDC31HJ-120X	C.CAPACITOR 50V 12P	1	
C352	NDC31HJ-100X	C.CAPACITOR 50V 10P	1	
C353	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C354-58	NCB31CK-104X	C.CAPACITOR 16V 0.1U	5	
C359	NDC31HJ-8R0X	C.CAPACITOR 50V 8P	1	
C369	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C501	NDC31HG-331X	C.CAPACITOR 50V 330P	1	
C502	NDC31HJ-100X	C.CAPACITOR 50V 10P	1	
C503,04	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C603	NDC31HJ-271X	C.CAPACITOR 50V 270P	1	
C604	NDC31HJ-121X	C.CAPACITOR 50V 120P	1	
C605	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C606,07	NDC31HJ-102X	C.CAPACITOR 50V 1000P	2	
C609,10	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C611	NDC31HJ-220X	C.CAPACITOR 50V 22P	1	
C612-17	NCB31CK-104X	C.CAPACITOR 16V 0.1U	5	
C618	NDC31HJ-5R0X	C.CAPACITOR 50V 5P	1	
C619	NDC31HJ-470X	C.CAPACITOR 50V 47P	1	
C621	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1001	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1002	NEH91CM-226X	E.CAPACITOR 16V 22U	1	
C1003	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1004	NEH91CM-226X	E.CAPACITOR 16V 22U	1	
C1005	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1006	NEH91CM-226X	E.CAPACITOR 16V 22U	1	
C1007	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1008	NCB11AK-106X	C.CAPACITOR 10V 10U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C1009,10	NEH91CM-106X	E.CAPACITOR 16V 10U	2	
C1011	NEH91CM-476X	E.CAPACITOR 16V 47U	1	
C1012	NEH90JM-476X	E.CAPACITOR 6.3V 47U	1	
C1013-23	NEH91CM-106X	E.CAPACITOR 16V 10U	11	
C1024	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1025	NEH91HM-105X	E.CAPACITOR 50V 1U	1	
C1026	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C1027	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1028	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C1029	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1030	NCB31AK-224X	C.CAPACITOR 10V 0.22U	1	
C1031-36	NEH91CM-106X	E.CAPACITOR 16V 10U	6	
C1037,38	NCB21AK-105X	C.CAPACITOR 10V 1U	2	
C1039,40	NCB11CK-475X	C.CAPACITOR 16V 4.7U	2	
C1041	NCB21AK-105X	C.CAPACITOR 10V 1U	1	
C1042	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1051-55	NCB31CK-104X	C.CAPACITOR 16V 0.1U	5	
C1056-59	NEH91CM-106X	E.CAPACITOR 16V 10U	4	
C1060	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C1061	NEH91EM-336X	E.CAPACITOR 25V 33U	1	
C2001-03	NCB31CK-473X	C.CAPACITOR 16V 0.047U	3	
C2004	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C2005,06	NCB31CK-473X	C.CAPACITOR 16V 0.047U	2	
C2021	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C2031-33	NCB31CK-473X	C.CAPACITOR 16V 0.047U	3	
C2060	NCB31CK-473X	C.CAPACITOR 16V 0.047U	1	
C2064	NCS31HJ-220X	C.CAPACITOR 50V 22P	1	
C2065	NCB31CK-473X	C.CAPACITOR 16V 0.047U	1	
C2081,82	NCB31CK-473X	C.CAPACITOR 16V 0.047U	2	
C2091	NCB31CK-473X	C.CAPACITOR 16V 0.047U	1	
C2092	NCS31HJ-240X	C.CAPACITOR 50V 24P	1	
C2101-03	NCB31CK-473X	C.CAPACITOR 16V 0.047U	3	
C2131	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C2132	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C2133	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C2134	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C2135	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C2136,37	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C2138	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C2139	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C2501	NCB31CK-473X	C.CAPACITOR 16V 0.147U	1	
C3001	NEH91EM-336X	E.CAPACITOR 25V 33U	1	
C3002	NEH91EM-106X	E.CAPACITOR 25V 10U	1	
C3003	NEH91EM-336X	E.CAPACITOR 25V 33U	1	
C3004,05	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C3006	NBE51CM-336X	T.CAPACITOR 16V 33U	1	
C3007	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C3010	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C3011	NEH91EM-106X	E.CAPACITOR 25V 10U	1	
C3012	NEH91EM-336X	E.CAPACITOR 25V 33U	1	
C3013,14	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C3015	NDC31HJ-221X	C.CAPACITOR 50V 220P	1	
C3016	NCB11EK-105X	C.CAPACITOR 25V 1U	1	
C3017	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C3018	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C3019	NCB11EK-105X	C.CAPACITOR 25V 1U	1	
C3020	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C3021,22	NCB11EK-105X	C.CAPACITOR 25V 1U	2	
C3023	NBE51CM-336X	T.CAPACITOR 16V 33U	1	
C3024	NCS31EJ-102X	C.CAPACITOR 25V 1000P	1	
C3025	NBE51CM-336X	T.CAPACITOR 16V 33U	1	
C3026	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C3027	NCB11EK-105X	C.CAPACITOR 25V 1U	1	
C3028	NBE51CM-336X	T.CAPACITOR 16V 33U	1	
C3029	NCS31EJ-102X	C.CAPACITOR 25V 1000P	1	
C3030	NBE51CM-336X	T.CAPACITOR 16V 33U	1	
C3031	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C3032	NBE51CM-336X	T.CAPACITOR 16V 33U	1	
C3033	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C3034	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C3035	NDC31HJ-221X	C.CAPACITOR 50V 220P	1	
C3036	NCB11EK-105X	C.CAPACITOR 25V 1U	1	
C3037	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C3038	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C3039	NCB11EK-105X	C.CAPACITOR 25V 1U	1	

Components identified with the mark ⚠ have the special characterisitics for safety.
When replacing any of these components, use onlly the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C3040	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C3041,42	NCB11EK-105X	C.CAPACITOR 25V 1U	2	
C3043-45	NCB11AK-106X	C.CAPACITOR 10V 10U	3	
C3046	NCS31EJ-102X	C.CAPACITOR 25V 1000P	1	
C3047-49	NCB11AK-106X	C.CAPACITOR 10V 10U	3	
C3050	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C3051	NCB11EK-105X	C.CAPACITOR 25V 1U	1	
C3052-54	NCB11AK-106X	C.CAPACITOR 10V 10U	3	
C3055	NDC31HJ-681X	C.CAPACITOR 50V 680P	1	
C3056-58	NCB11AK-106X	C.CAPACITOR 10V 10U	3	
C3059	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C4001-08	NDC31HJ-221X	C.CAPACITOR 50V 220P	8	
C4009-12	NCB31HK-103X	C.CAPACITOR 50V 0.01U	4	
CL1	PGZ01978	MINI CLAMP	1	
CN1001	QGA1201C2-03	CONNECTOR 3P	1	
CN3001	QGA2501C1-04	CONNECTOR 4P	1	
CN4001,02	QGF0508F2-45	CONNECTOR 45P	2	
CN4003	QGF0508F2-30	CONNECTOR 30P	1	
CN4004	QGB0502L1-40	CONNECTOR 40P	1	
CN4005	QGA1201C2-02	CONNECTOR 2P	1	
D1	DAN202U	DIODE	1	
D1001	DAN202U	DIODE	1	
D2002,03	MA741WK	DIODE	2	
D3001	SB140L-6395	DIODE	1	
D3006-08	SFPB-72-W	DIODE	3	
D3009	MA738	DIODE	1	
D4001-12	MA3091	DIODE	12	
D4013-20	MA3160-M	DIODE	8	
D4021-29	MA3091	DIODE	9	
D4031	MA3091	DIODE	1	
⚠ F3001	MFZ011-3R15X	FUSE	1	
FL1	QQR0454-001	FL FILTER	1	
IC1	TC4W53FU	IC	1	
IC2	MM1565AF	IC	1	
IC3	NJM79L05UA	IC	1	
IC4	CXD2064Q	IC	1	
IC5	M51271FP	IC	1	
IC6	SN74AHCT04PW	IC	1	C0JBAB000541
IC7	MM1565AF	IC	1	
IC8	NJM79L05UA	IC	1	
IC14	UPC78L05T	IC	1	
IC201	M62366GP	IC	1	
IC202	AN3916LF	IC	1	
IC204	PD6467GR-519	IC	1	
IC206	TC4W53FU	IC	1	
IC207	MM1571JN	IC	1	
IC208	JCP8029	IC	1	
IC209	AD817AR	IC	1	
IC211,12	AD817AR	IC	2	
IC213,14	SN74AHC574PW	IC	2	
IC215	N74AHC1GU04K	IC	1	
IC217	N74AHC245DGV	IC	1	
IC218	AD817AR	IC	1	
IC501	SN74LV221APW	IC	1	C0JBAM000100
IC502	SN74AHC74PW	IC	1	
IC601	C74VHC221AFT	IC	1	
IC602	TC7SET08F	IC	1	
IC603,04	TC7W53FU	IC	2	
IC1001	BA3314F	IC	1	
IC1002-04	M5218AFP	IC	3	
IC1005	AK4552VT	IC	1	
IC1006	AK4363VF	IC	1	
IC1007,08	M5218AFP	IC	2	
IC1009	BA6138F	IC	1	
IC1011,12	SN74HC161APW	IC	2	
IC1013	SN74AHC00PW	IC	1	
IC1014	SN74AHC04PW	IC	1	
IC1015	SN74AHC74PW	IC	1	
IC1016	SN74AHC1G00K	IC	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC1017	TC4W53FU	IC	1	
IC2002	RS5C314	IC	1	
IC2003	M95320-WMN6	IC	1	
IC2004	RN5VD26AA	IC	1	
IC2005	NJU7222U30	IC	1	
IC2006,07	N74LV165ADGV	IC	2	
IC2008	M66311FP	IC	1	
IC2009,10	BU4094BCFV	IC	2	
IC2011	N74AHCT125PW	IC	1	
IC2012	N74LV126ADGV	IC	1	
IC2013	DS8922M	IC	1	
IC2015,16	SN74AHC1G32K	IC	2	
IC2017	TC7W04F	IC	1	
IC2051	CD4053B	IC	1	
IC3001	NJM78M05DL1A	IC	1	
IC3002,03	BA9743AFV	IC	2	
J1	QNZ0593-001	JACK BOARD	1	
J2	QNZ0475-001	9 PIN CONNECTOR	1	
J3	QNS0037-001	3.5 JACK	1	
J4	QNA0033-001	DC JACK	1	
K202	NQR0200-005X	COIL	1	
K203	PGZ01994-601	FERRITE BEADS	1	
K204	NQR0200-005X	COIL	1	
K1001	NQR0200-005X	COIL	1	
K1002-04	PGZ01994-601	FERRITE BEADS	3	
K1005	NQR0200-005X	COIL	1	
K1006	PGZ01994-601	FERRITE BEADS	1	
K1007	NQR0200-005X	COIL	1	
K2001,02	NQR0265-001X	FERAITE BEAD	2	
K4001-03	NQR0200-005X	COIL	3	
K4005	NQR0200-005X	COIL	1	
L1-L8	NQL114K-220X	COIL 22UH	8	
L9	NQL024J-100X	COIL 10UH	1	
L10	NQL024J-5R6X	COIL 5.6UH	1	
L11	NQL024J-100X	COIL 10UH	1	
L12	NQL024J-150X	COIL 15UH	1	
L13	NQL024J-100X	COIL 10UH	1	
L14	NQL024J-5R6X	COIL 5.6UH	1	
L15	NQL024J-100X	COIL 10UH	1	
L16	NQL024J-150X	COIL 15UH	1	
L17	NQL024J-270X	COIL 27UH	1	
L18	NQL024J-180X	COIL 18UH	1	
L19	NQL114K-220X	COIL 22UH	1	
L201-03	NQL114K-220X	COIL 22UH	3	
L205-09	NQL114K-220X	COIL 22UH	5	
L210	NQL024J-330X	COIL 33UH	1	
L211	NQL024J-150X	COIL 15UH	1	
L212,13	NQL114K-220X	COIL 22UH	2	
L214	NQL024J-330X	COIL 33UH	1	
L215	NQL024J-150X	COIL 15UH	1	
L216-18	NQL114K-220X	COIL 22UH	3	
L220	NQL024J-150X	COIL 15UH	1	
L221	NQL024J-330X	COIL 33UH	1	
L222	NQL024J-150X	COIL 15UH	1	
L223	NQL024J-330X	COIL 33UH	1	
L224	NQL114K-220X	COIL 22UH	1	
L601,02	NQL024J-330X	COIL 33UH	2	
LC1001	NQR0436-001X	LC FILTER	1	
L3001-07	NQL25CM-330X	COIL 33UH	7	
L3008,09	NQL25CM-470X	COIL 47UH	2	
L4001-04	NQL024J-100X	COIL 10UH	4	
Q1	2SA1774	TRANSISTOR	1	
Q2,Q3	2SC4617	TRANSISTOR	2	
Q4	2SA1774	TRANSISTOR	1	
Q5-10	2SC4617	TRANSISTOR	6	
Q11	2SA1774	TRANSISTOR	1	
Q12	2SC4617	TRANSISTOR	1	
Q13	2SA1774	TRANSISTOR	1	
Q14-16	2SC4617	TRANSISTOR	3	
Q17	2SA1774	TRANSISTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q18	2SC4617	TRANSISTOR	1	
Q19	2SA1774	TRANSISTOR	1	
Q20,21	2SC4617	TRANSISTOR	2	
Q22	DTC124EUA	TRANSISTOR	1	
Q23-26	2SC4617	TRANSISTOR	4	
Q201	2SC4617	TRANSISTOR	1	
Q207,08	2SC4617	TRANSISTOR	2	
Q209	2SA1774	TRANSISTOR	1	
Q210-12	2SC4617	TRANSISTOR	3	
Q213	2SA1774	TRANSISTOR	1	
Q214,15	2SC4617	TRANSISTOR	2	
Q216	2SA1774	TRANSISTOR	1	
Q217	2SC4617	TRANSISTOR	1	
Q218	2SA1774	TRANSISTOR	1	
Q219	2SC4617	TRANSISTOR	1	
Q222	2SA1774	TRANSISTOR	1	
Q223	2SC4617	TRANSISTOR	1	
Q225	2SC4617	TRANSISTOR	1	
Q226	2SA1774	TRANSISTOR	1	
Q229	2SA1774	TRANSISTOR	1	
Q230	2SC4617	TRANSISTOR	1	
Q601,02	2SC4617	TRANSISTOR	2	
Q603,04	2SK665	FET	2	
Q605,06	2SA1774	TRANSISTOR	2	
Q1001,02	DTC124EUA	TRANSISTOR	2	
Q1003	DTA124EUA	TRANSISTOR	1	
Q1004,05	DTC323TU	TRANSISTOR	2	
Q1006	DTC124EUA	TRANSISTOR	1	
Q1007	DTA124EUA	TRANSISTOR	1	
Q1008,09	DTC323TU	TRANSISTOR	2	
Q1011	DTC124EUA	TRANSISTOR	1	
Q1012	DTA124EUA	TRANSISTOR	1	
Q1013,14	DTC323TU	TRANSISTOR	2	
Q1015	DTA124EUA	TRANSISTOR	1	
Q1016	DTC124EUA	TRANSISTOR	1	
Q1017	DTA124EUA	TRANSISTOR	1	
Q1018,19	DTC323TU	TRANSISTOR	2	
Q2001	DTC144EKA	TRANSISTOR	1	
Q2002	DTA144EKA	TRANSISTOR	1	
Q2003	DTC144EKA	TRANSISTOR	1	
Q2004	DTC144EUA	TRANSISTOR	1	
Q2006	DTC144EKA	TRANSISTOR	1	
Q3001	DTC114EUA	TRANSISTOR	1	
Q3002	2SD1628/FG/	TRANSISTOR	1	
Q3003,04	DTA114EUA	TRANSISTOR	2	
Q3005	DTC114EUA	TRANSISTOR	1	
Q3006	2SD1628/FG/	TRANSISTOR	1	
Q3007,08	2SJ484WY	FET	2	
Q3009,10	HAT1021R	TRANSISTOR	2	
Q3011	2SC2411K	TRANSISTOR	1	
Q3012	SA1036K/PQR/	TRANSISTOR	1	
Q3013	2SC2411K	TRANSISTOR	1	
Q3014	SA1036K/PQR/	TRANSISTOR	1	
Q3015	2SC2411K	TRANSISTOR	1	
Q3016	SA1036K/PQR/	TRANSISTOR	1	
Q3017	2SC2411K	TRANSISTOR	1	
Q3018	SA1036K/PQR/	TRANSISTOR	1	
R1	NRSA63D-331X	M.RESISTOR CH 1/16W 330	1	
R2	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R3	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	1	
R4	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R5	NRSA63D-122X	M.RESISTOR CH 1/16W 1.2K	1	
R6	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R7	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R8,R9	NRSA63D-151X	M.RESISTOR CH 1/16W 150	2	
R10	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R11	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R12	NRSA63J-273X	M.RESISTOR CH 1/16W 27K	1	
R13	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R14	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R15	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R16	NRSA63J-821X	M.RESISTOR CH 1/16W 820	1	
R18	NRSA63D-471X	M.RESISTOR CH 1/16W 470	1	
R19	NRSA63D-272X	M.RESISTOR CH 1/16W 2.7K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R20	NRSA63D-471X	M.RESISTOR CH 1/16W 470	1	
R21	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R22	NRSA63D-331X	M.RESISTOR CH 1/16W 330	1	
R23	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R24	NRSA63D-821X	M.RESISTOR CH 1/16W 820	1	
R25	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R26	NRSA63D-222X	M.RESISTOR CH 1/16W 2.2K	1	
R27	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R28	NRSA63D-122X	M.RESISTOR CH 1/16W 1.2K	1	
R29	NRSA63J-681X	M.RESISTOR CH 1/16W 680	1	
R30-32	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	3	
R33,34	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	2	
R35	NRSA63D-182X	M.RESISTOR CH 1/16W 1.8K	1	
R36,37	NRSA63J-221X	M.RESISTOR CH 1/16W 220	2	
R38	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R40	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R41	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R42	NRSA63D-392X	M.RESISTOR CH 1/16W 3.9K	1	
R43	NRSA63J-681X	M.RESISTOR CH 1/16W 680	1	
R44	NRSA63J-393X	M.RESISTOR CH 1/16W 39K	1	
R45	NRSA63J-221X	M.RESISTOR CH 1/16W 220	1	
R46	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R47	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R48	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R49	NRSA63J-561X	M.RESISTOR CH 1/16W 560	1	
R50	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R51	NRSA63J-561X	M.RESISTOR CH 1/16W 560	1	
R52	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R53	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R54	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R56	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R57	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R58	NRSA63D-331X	M.RESISTOR CH 1/16W 330	1	
R60,61	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	2	
R62	NRSA63D-331X	M.RESISTOR CH 1/16W 330	1	
R63	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R64	NRSA63D-681X	M.RESISTOR CH 1/16W 680	1	
R65	NRSA63D-331X	M.RESISTOR CH 1/16W 330	1	
R66	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R67	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R68	NRSA63D-182X	M.RESISTOR CH 1/16W 1.8K	1	
R69,70	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	2	
R71	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R72	NRSA63J-391X	M.RESISTOR CH 1/16W 390	1	
R73	NRSA63D-151X	M.RESISTOR CH 1/16W 150	1	
R74	NRSA63J-272X	M.RESISTOR CH 1/16W 2.7K	1	
R75	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R76	NRSA63J-562X	M.RESISTOR CH 1/16W 5.6K	1	
R77	NRSA63D-471X	M.RESISTOR CH 1/16W 470	1	
R78	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R79	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R80	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R81	NRSA63J-823X	M.RESISTOR CH 1/16W 82K	1	
R82	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R83	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R84	NRSA63J-125X	M.RESISTOR CH 1/16W 1.2M	1	
R85	NRSA63D-474X	M.RESISTOR CH 1/16W 470K	1	
R86	NRSA63J-183X	M.RESISTOR CH 1/16W 18K	1	
R87	NRSA63J-123X	M.RESISTOR CH 1/16W 12K	1	
R88	NRSA63J-153X	M.RESISTOR CH 1/16W 15K	1	
R89,90	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	2	
R91	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R92	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R93	NRSA63J-510X	M.RESISTOR CH 1/16W 51	1	
R94	NRSA63J-331X	M.RESISTOR CH 1/16W 330	1	
R95	NRSA63J-510X	M.RESISTOR CH 1/16W 51	1	
R96	NRSA63J-331X	M.RESISTOR CH 1/16W 330	1	
R97-99	NRSA63J-333X	M.RESISTOR CH 1/16W 33K	3	
R100,01	NRSA63J-153X	M.RESISTOR CH 1/16W 15K	2	
R102	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R103	NRSA63J-333X	M.RESISTOR CH 1/16W 33K	1	
R104	NRSA63J-391X	M.RESISTOR CH 1/16W 390	1	
R105	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R106	NRSA63J-681X	M.RESISTOR CH 1/16W 680	1	
R107	NRSA63J-331X	M.RESISTOR CH 1/16W 330	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R108	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R109	NRSA63D-182X	M.RESISTOR CH 1/16W 1.8K	1	
R110	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R111	NRSA63D-222X	M.RESISTOR CH 1/16W 2.2K	1	
R112	NRSA63D-152X	M.RESISTOR CH 1/16W 1.5K	1	
R113-19	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	7	
R180	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	1	
R203	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R204,05	NRSA63D-151X	M.RESISTOR CH 1/16W 150	2	
R206	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R207	NRSA63J-273X	M.RESISTOR CH 1/16W 27K	1	
R208	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R209,10	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	2	
R211	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R212	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R213	NRSA63J-684X	M.RESISTOR CH 1/16W 680K	1	
R214	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R215	NRSA63J-123X	M.RESISTOR CH 1/16W 12K	1	
R233	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R234-36	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	3	
R239,40	NRSA63J-101X	M.RESISTOR CH 1/16W 100	2	
R241	NRSA63D-181X	M.RESISTOR CH 1/16W 180	1	
R242	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R243	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R244	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R246	NRSA63D-751X	M.RESISTOR CH 1/16W 750	1	
R247	NRSA63D-222X	M.RESISTOR CH 1/16W 2.2K	1	
R248	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R249	NRSA63J-273X	M.RESISTOR CH 1/16W 27K	1	
R250	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R251	NRSA63D-821X	M.RESISTOR CH 1/16W 820	1	
R252	NRSA63D-331X	M.RESISTOR CH 1/16W 330	1	
R253	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R254	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R255	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R256	NRSA63D-471X	M.RESISTOR CH 1/16W 470	1	
R257	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R258	NRSA63D-122X	M.RESISTOR CH 1/16W 1.2K	1	
R259	NRSA63J-684X	M.RESISTOR CH 1/16W 680K	1	
R260	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R263	NRSA63J-333X	M.RESISTOR CH 1/16W 33K	1	
R264	NRSA63J-683X	M.RESISTOR CH 1/16W 68K	1	
R265,66	NRSA63D-151X	M.RESISTOR CH 1/16W 150	2	
R267	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R268	NRSA63J-273X	M.RESISTOR CH 1/16W 27K	1	
R269	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R270	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R271	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R272	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R273	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R274	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R275	NRSA63J-273X	M.RESISTOR CH 1/16W 27K	1	
R276	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R277	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R279	NRSA63D-751X	M.RESISTOR CH 1/16W 750	1	
R280	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R281	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R282	NRSA63J-393X	M.RESISTOR CH 1/16W 39K	1	
R283	NRSA63D-561X	M.RESISTOR CH 1/16W 560	1	
R284	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R285	NRSA63D-331X	M.RESISTOR CH 1/16W 330	1	
R286	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R287	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R288	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R289	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R290	NRSA63D-471X	M.RESISTOR CH 1/16W 470	1	
R291	NRSA63J-681X	M.RESISTOR CH 1/16W 680	1	
R292,93	NRSA63D-151X	M.RESISTOR CH 1/16W 150	2	
R294	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R295	NRSA63D-152X	M.RESISTOR CH 1/16W 1.5K	1	
R296	NRSA63D-561X	M.RESISTOR CH 1/16W 560	1	
R297	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R298	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R299,00	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	2	
R302	NRSA63J-751X	M.RESISTOR CH 1/16W 750	1	
R303	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R304	NRSA63J-221X	M.RESISTOR CH 1/16W 220	1	
R305,06	NRSA63D-151X	M.RESISTOR CH 1/16W 150	2	
R307,08	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	2	
R310,11	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	2	
R312,13	NRSA63D-151X	M.RESISTOR CH 1/16W 150	2	
R315	NRSA63D-302X	M.RESISTOR CH 1/16W 3K	1	
R316	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R317	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R318	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R323,24	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	2	
R326	NRSA63D-751X	M.RESISTOR CH 1/16W 750	1	
R327	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R328	NRSA63J-221X	M.RESISTOR CH 1/16W 220	1	
R329	NRSA63J-272X	M.RESISTOR CH 1/16W 2.7K	1	
R330	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R331	NRSA63J-821X	M.RESISTOR CH 1/16W 820	1	
R332	NRSA63J-221X	M.RESISTOR CH 1/16W 220	1	
R333	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R334-43	NRSA63J-330X	M.RESISTOR CH 1/16W 33	10	
R344,45	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	2	
R346,47	NRSA63J-100X	M.RESISTOR CH 1/16W 10	2	
R348	NRSA63J-272X	M.RESISTOR CH 1/16W 2.7K	1	
R349	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R350	NRSA63J-221X	M.RESISTOR CH 1/16W 220	1	
R351	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R352	NRSA63J-221X	M.RESISTOR CH 1/16W 220	1	
R353	NRSA63J-821X	M.RESISTOR CH 1/16W 820	1	
R354-57	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	4	
R359	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R360	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	1	
R362	NRSA63J-472X	M.RESISTOR CH 1/16W 4.7K	1	
R364	PGZ01994-601	FERRITE BEADS	1	
R365	NRSA63J-220X	M.RESISTOR CH 1/16W 22	1	
R371	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	1	
R372	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R373	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	1	
R374,75	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	2	
R376,77	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	2	
R378	NRSA63J-220X	M.RESISTOR CH 1/16W 22	1	
R379-89	NRSA63J-330X	M.RESISTOR CH 1/16W 33	11	
R390	PGZ01994-601	FERRITE BEADS	1	
R391	NRSA63J-220X	M.RESISTOR CH 1/16W 22	1	
R392	PGZ01994-601	FERRITE BEADS	1	
R393	NRSA63J-105X	M.RESISTOR CH 1/16W 1M	1	
R394	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R395	NRSA63J-330X	M.RESISTOR CH 1/16W 33	1	
R396	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R397	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R402	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R403	NRSA63D-182X	M.RESISTOR CH 1/16W 1.8K	1	
R404,05	NRSA63J-221X	M.RESISTOR CH 1/16W 220	2	
R406	NRSA63J-333X	M.RESISTOR CH 1/16W 33K	1	
R408	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R409	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R412	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R413	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R414	NRSA63D-302X	M.RESISTOR CH 1/16W 3K	1	
R419	NRSA63J-220X	M.RESISTOR CH 1/16W 22	1	
R421	NRSA63J-560X	M.RESISTOR CH 1/16W 56	1	
R501	NRSA63D-474X	M.RESISTOR CH 1/16W 470K	1	
R502	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R504	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R505	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R506	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R507	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R601,02	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	2	
R603	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R604	NRSA63J-821X	M.RESISTOR CH 1/16W 820	1	
R605	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R606	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R607	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	1	
R608	NRSA63J-472X	M.RESISTOR CH 1/16W 4.7K	1	
R609	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R610	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R611	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R612	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R613	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R614	NRSA63D-122X	M.RESISTOR CH 1/16W 1.2K	1	
R615	NRSA63D-392X	M.RESISTOR CH 1/16W 3.9K	1	
R616	NRSA63D-182X	M.RESISTOR CH 1/16W 1.8K	1	
R617	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R618	NRSA63D-821X	M.RESISTOR CH 1/16W 820	1	
R619	NRSA63D-681X	M.RESISTOR CH 1/16W 680	1	
R620	NRSA63D-201X	M.RESISTOR CH 1/16W 200	1	
R621	NRSA63D-162X	M.RESISTOR CH 1/16W 1.6K	1	
R625	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R1003	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R1004	NRSA63J-271X	M.RESISTOR CH 1/16W 270	1	
R1005,06	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	2	
R1007	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	1	
R1009	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R1010	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R1011	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R1012	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R1013	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R1014	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	1	
R1016	NRSA63D-822X	M.RESISTOR CH 1/16W 7.2K	1	
R1018	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R1019	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R1020	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R1021	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R1022	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R1023	NRSA63D-822X	M.RESISTOR CH 1/16W 8.2K	1	
R1025-28	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	4	
R1029-31	NRSA63J-560X	M.RESISTOR CH 1/16W 56	3	
R1032	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R1033	NRSA63J-560X	M.RESISTOR CH 1/16W 56	1	
R1034	PGZ01994-601	FERRITE BEADS	1	
R1035	NRSA63J-512X	M.RESISTOR CH 1/16W 5.1K	1	
R1036	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R1037	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R1038	NRSA63J-822X	M.RESISTOR CH 1/16W 8.2K	1	
R1039	NRSA63D-822X	M.RESISTOR CH 1/16W 8.2K	1	
R1040	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R1041	NRSA63J-682X	M.RESISTOR CH 1/16W 6.8K	1	
R1042	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R1043	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R1044	NRSA63J-822X	M.RESISTOR CH 1/16W 8.2K	1	
R1045	NRSA63D-822X	M.RESISTOR CH 1/16W 8.2K	1	
R1046	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R1047	NRSA63J-682X	M.RESISTOR CH 1/16W 6.8K	1	
R1048,49	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	2	
R1050	NRSA63J-272X	M.RESISTOR CH 1/16W 2.7K	1	
R1051	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R1052	NRSA63J-272X	M.RESISTOR CH 1/16W 2.7K	1	
R1053	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R1054,55	NRSA63J-154X	M.RESISTOR CH 1/16W 150K	2	
R1056	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R1057	NRSA63J-472X	M.RESISTOR CH 1/16W 4.7K	1	
R1058	NRSA63J-682X	M.RESISTOR CH 1/16W 6.8K	1	
R1059	NRSA63J-560X	M.RESISTOR CH 1/16W 56	1	
R1060,61	NRSA63D-681X	M.RESISTOR CH 1/16W 680	2	
R1062	NRSA63J-472X	M.RESISTOR CH 1/16W 4.7K	1	
R1063	NRSA63J-682X	M.RESISTOR CH 1/16W 6.8K	1	
R1064,65	NRSA63J-560X	M.RESISTOR CH 1/16W 56	2	
R1071,72	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	2	
R1073	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	1	
R1074	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R1075	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	1	
R1076	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R1077,78	NRSA63D-122X	M.RESISTOR CH 1/16W 1.2K	2	
R1079	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R1080	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R2001-12	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	12	
R2015	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R2016	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R2017-19	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	3	
R2021,22	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	2	
R2023	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R2024	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	1	
R2025,26	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	2	
R2031,32	NRSA63J-221X	M.RESISTOR CH 1/16W 220	2	
R2035	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R2036	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R2037,38	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	2	
R2039	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R2040,41	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	2	
R2042	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R2043	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R2044	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R2052-57	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	5	
R2059	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R2061	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R2062,63	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	2	
R2064-67	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	4	
R2068	NRSA63J-474X	M.RESISTOR CH 1/16W 470K	1	
R2070	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R2071	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R2072	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R2081,82	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	2	
R2083,84	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	2	
R2093	NRSA63J-471X	M.RESISTOR CH 1/16W 470	1	
R2094	NRSA63D-471X	M.RESISTOR CH 1/16W 470	1	
R2095	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	1	
R2102	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R2105	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R2106	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R2107-10	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	4	
R2112,13	NRSA63J-101X	M.RESISTOR CH 1/16W 100	2	
R2114	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R2115,16	NRSA63J-101X	M.RESISTOR CH 1/16W 100	2	
R2117,18	NRSA63D-101X	M.RESISTOR CH 1/16W 100	2	
R2119-22	NRSA63J-101X	M.RESISTOR CH 1/16W 100	4	
R2141-54	NRSA63D-102X	M.RESISTOR CH 1/16W 1K	14	
R2203-06	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	4	
R2501,02	NRSA63J-101X	M.RESISTOR CH 1/16W 100	2	
R3001	NRSA63D-153X	M.RESISTOR CH 1/16W 15K	1	
R3002	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	1	
R3003	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R3004	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R3005	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R3006	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R3007	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R3008	NRSA63D-101X	M.RESISTOR CH 1/16W 100	1	
R3009	NRSA63D-123X	M.RESISTOR CH 1/16W 12K	1	
R3010	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R3011	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R3012	NRSA63D-273X	M.RESISTOR CH 1/16W 27K	1	
R3013-16	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	4	
R3017	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R3018	NRSA63D-123X	M.RESISTOR CH 1/16W 12K	1	
R3019	NRSA63D-273X	M.RESISTOR CH 1/16W 27K	1	
R3020	NRSA63D-471X	M.RESISTOR CH 1/16W 470	1	
R3021	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	1	
R3022	NRSA63D-182X	M.RESISTOR CH 1/16W 1.8K	1	
R3024	NRSA63D-182X	M.RESISTOR CH 1/16W 1.8K	1	
R3025	NRSA63D-122X	M.RESISTOR CH 1/16W 1.2K	1	
R3026	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R3027	NRSA63J-471X	M.RESISTOR CH 1/16W 470	1	
R3028	NRSA63D-392X	M.RESISTOR CH 1/16W 3.9K	1	
R3030	NRSA63D-392X	M.RESISTOR CH 1/16W 3.9K	1	
R3031	NRSA63D-562X	M.RESISTOR CH 1/16W 5.6K	1	
R3032	NRSA63D-153X	M.RESISTOR CH 1/16W 15K	1	
R3033	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R3034	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R3035	NRSA63D-273X	M.RESISTOR CH 1/16W 27K	1	
R3036	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R3037,38	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	2	
R3039	NRSA63D-153X	M.RESISTOR CH 1/16W 15K	1	
R3040	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R3041	NRSA63J-822X	M.RESISTOR CH 1/16W 8.2K	1	
R3042	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R3043	NRSA63D-273X	M.RESISTOR CH 1/16W 27K	1	
R3044	NRSA63J-471X	M.RESISTOR CH 1/16W 470	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3045	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	1	
R3046	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	1	
R3048	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R3049	NRSA63D-152X	M.RESISTOR CH 1/16W 1.5K	1	
R3050	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	1	
R3051	NRSA63D-471X	M.RESISTOR CH 1/16W 470	1	
R3052	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R3054	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	1	
R3056	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R3059	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R3069-72	NRSA63J-100X	M.RESISTOR CH 1/16W 10	4	
R4001-04	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	4	
R4011-14	NRSA63J-560X	M.RESISTOR CH 1/16W 56	4	
S4001	QSW0269-002	SLIDE SWITCH	1	
TH3003	NAD0023-003X	THERMISTOR	1	
TP1	NNZ0009-001X	TEST POINT	1	
TP10	NNZ0022-001X	TEST POINT	1	
TP201	NNZ0022-001X	TEST POINT	1	
TP204	NNZ0009-001X	TEST POINT	1	
VC601,02	EC2C01C	DIODE ARRAY	2	
X1	QAX0017-001	CRYSTAL OSCILLATOR	1	
X2	QAX0214-001	CRYSTAL OSCILLATOR	1	
X201	NAX0348-001X	CRYSTAL OSCILLATOR	1	
X2001	NAX0536-001X	CRYSTAL OSCILLATOR	1	
X2003	NAX0325-001X	CRYSTAL OSCILLATOR	1	
■	LK2129B0A1	FRONT P.C.BOARD	1	(RTL)
C1	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
CN1	QGF0508F1-45	CONNECTOR	1	
IC1	SBX3071-52	IC	1	
LD1	GL3CL8	LED	1	
LD2	SLR-342VR3F	LED	1	
LD3-D6	SLR-342MG3F	LED	4	
LD7	SLR-342VR3F	LED	1	
LD8-13	SLR-342MG3F	LED	6	
LD14	SLR-342VR3F	LED	1	
LD15-18	SLR-342MG3F	LED	4	
Q1,Q2	DTC124EUA	TRANSISTOR	2	
Q4-Q8	DTC124EUA	TRANSISTOR	5	
R1-19	NRSA63J-271X	M.RESISTOR CH 1/16W 270	19	
R20,21	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	2	
S1,S2	QSW0164-001	TACT SWITCH	2	
S3,S4	QSW0340-001	SLIDE SWITCH	2	
S5-11	QSW0164-001	TACT SWITCH	7	
■	LK2129B0A2	DVCONN P.C.BOARD	1	(RTL)
CN201	GA1201F2-06X	CONNECTOR	1	
J201	QNZ0097-001	JACK	1	
K201,02	NQR0200-005X	COIL	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R201-04	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	4	
■	LK2129B0A3	MIC P.C.BOARD	1	(RTL)
C301,02	NDC31HJ-221X	C.CAPACITOR 50V 220P	2	
CN301	QGA1201F2-03	CONNECTOR 3P	1	
D301,02	MA3091	DIODE	2	
J301	QNS0045-001	3.5 JACK	1	
K302	NQR0155-004X	FILTER	1	
L301	NQL024J-100X	COIL 10UH	1	
R301	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
■	LK2125-D0B	DV/CPU P.C.BOARD	1	(RTL)
C1-C6	NCB31CK-104X	C.CAPACITOR 16V 0.1U	6	
C7	NCB31CK-223X	C.CAPACITOR 16V 0.022U	1	
C8,C9	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C10	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C11,12	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C13	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C14,15	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C16	NBE41CM-106X	T.CAPACITOR 16V 10U	1	
C17,18	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C19	NBE41CM-106X	T.CAPACITOR 16V 10U	1	
C20-24	NCB31CK-104X	C.CAPACITOR 16V 0.1U	5	
C25	NDC31HJ-221X	C.CAPACITOR 50V 220P	1	
C26,27	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C28	NDC31HJ-102X	C.CAPACITOR 50V 1000P	1	
C29,30	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C31	NCB11CK-475X	C.CAPACITOR 16V 4.7U	1	
C32,33	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C34	NCB11CK-475X	C.CAPACITOR 16V 4.7U	1	
C35	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C101,02	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C103	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C104	NDC31HJ-151X	C.CAPACITOR 50V 150P	1	
C106	NCB30JK-105X	C.CAPACITOR 6.3V 1U	1	
C108	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C109	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C110-21	NCB31CK-104X	C.CAPACITOR 16V 0.1U	12	
C122,23	NDC31HJ-120X	C.CAPACITOR 50V 12P	2	
C124,25	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C126	NDC31HJ-390X	C.CAPACITOR 50V 39P	1	
C127	NDC31HJ-102X	C.CAPACITOR 50V 1000P	1	
C128,29	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C130	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C131	NCB11CK-475X	C.CAPACITOR 16V 4.7U	1	
C133	NDC31HJ-271X	C.CAPACITOR 50V 270P	1	
C135	NCB31CK-473X	C.CAPACITOR 16V 0.047U	1	
C136	NCB31HK-222X	C.CAPACITOR 50V 2200P	1	
C137,38	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C139	NCB31HK-102X	C.CAPACITOR 50V 1000P	1	
C140	NDC31HJ-390X	C.CAPACITOR 50V 39P	1	
C141	NCB31HK-102X	C.CAPACITOR 50V 1000P	1	
C142	NDC31HJ-390X	C.CAPACITOR 50V 39P	1	
C143,44	NDC31HJ-6R0X	C.CAPACITOR 50V 6P	2	
C145-52	NCB31CK-104X	C.CAPACITOR 16V 0.1U	8	
C154	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C155,56	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C301,02	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C303	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C304	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C305	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C306,07	NDC31HJ-150X	C.CAPACITOR 50V 15P	2	
C308	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C309,10	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C311	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C312	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C313	NDC31HJ-220X	C.CAPACITOR 50V 22P	1	
C314	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C401	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C402	NBE41CM-106X	T.CAPACITOR 16V 10U	1	
C403	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C406	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C407,08	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C409	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C410	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C411	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C412	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C413	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C414	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C415	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C416	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C419	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C420,21	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C422	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C423	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C424	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C425	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C426	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C427	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C428	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C429,30	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C432,33	NCB11CK-105X	C.CAPACITOR 16V 1U	2	
C434,35	NBE21AM-106X	T.CAPACITOR 10V 10U	2	
C436,37	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C438,39	NCB31CK-223X	C.CAPACITOR 16V 0.022U	2	
C442-45	NCB31CK-223X	C.CAPACITOR 16V 0.022U	4	
C446	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C447,48	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C449,50	NCB31HK-102X	C.CAPACITOR 50V 1000P	2	
C451	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C452	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C453	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
CN101	GA1201F2-06X	CONNECTOR 6P	1	
CN102	GF0508C1-30W	CONNECTOR 30P	1	
CN103	GF0508C1-45W	CONNECTOR 45P	1	
CN104	GF0508C1-13W	CONNECTOR 13P	1	
CN105	GF0508C1-26W	CONNECTOR 26P	1	
CN106	GF0508C1-20W	CONNECTOR 20P	1	
CN107	GF0503F4-08X	CONNECTOR 8P	1	
CN108	GA1501F2-08W	CONNECTOR 8P	1	
D101-03	EC2C01C	DIODE ARRAY	3	
D401-03	DAN202U	DIODE	3	
IC1	JCY0132	IC	1	
IC2,C3	TC7SH00FU	IC	2	
IC101	TLC2940IPW	IC	1	
IC102	JCY0136	IC	1	
IC103	JCY0152	IC	1	
IC104,05	SN74AHC574PW	IC	2	
IC106	N74AHC245DGV	IC	1	
IC107	TC7W53FU	IC	1	
IC301	M95320-WMN6	IC	1	
IC303	RN5VD26AA	IC	1	
IC402	MM1571JN	IC	1	
IC404	TC7W14FU	IC	1	
IC405	M62366GP	IC	1	
K1	NQR0265-001X	FERAITE BEAD	1	
K101	NQR0265-001X	FERAITE BEAD	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
K103	NQR0265-001X	FERAITE BEAD	1	
K401,02	NQR0265-001X	FERAITE BEAD	2	
L1-L4	NQL044K-100X	COIL 10UH	4	
L101	NQL024J-2R2X	COIL 2.2UH	1	
L102	NQR0276-001X	COIL	1	
L103	NQL024J-120X	COIL 12UH	1	
L104	NQL024J-100X	COIL 10UH	1	
L105	NQL044K-100X	COIL 10UH	1	
L402-06	NQL044K-100X	COIL 10UH	5	
L408	NQL044K-100X	COIL 10UH	1	
LC401-05	NQR0436-001X	LC FILTER	5	
Q102	DTC143EUA	TRANSISTOR	1	
Q402-05	DTA114EUA	TRANSISTOR	4	
Q406-09	UMC3N-W	TRANSISTOR	4	
Q410	DTA114EUA	TRANSISTOR	1	
Q411,12	2SA1577	TRANSISTOR	2	
R3	NRSA63J-471X	M.RESISTOR CH 1/16W 470	1	
R4	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R5	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R6-R9	NRSA63J-241X	M.RESISTOR CH 1/16W 240	4	
R10	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R11	NRSA63J-472X	M.RESISTOR CH 1/16W 4.7K	1	
R12	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R13	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R14	NRSA63D-560X	M.RESISTOR CH 1/16W 56	1	
R101	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R104	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R105,06	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	2	
R107	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R108	NRSA63J-221X	M.RESISTOR CH 1/16W 220	1	
R109	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R111	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R112	NRSA63J-151X	M.RESISTOR CH 1/16W 150	1	
R113	NRSA63J-302X	M.RESISTOR CH 1/16W 3K	1	
R114	NRSA63J-151X	M.RESISTOR CH 1/16W 150	1	
R115	NRSA63J-302X	M.RESISTOR CH 1/16W 3K	1	
R116,17	NRSA63J-220X	M.RESISTOR CH 1/16W 22	2	
R118	NRSA63J-105X	M.RESISTOR CH 1/16W 1M	1	
R119	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R120	NRSA63J-562X	M.RESISTOR CH 1/16W 5.6K	1	
R121	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R122,23	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	2	
R124	NRSA63J-224X	M.RESISTOR CH 1/16W 220K	1	
R126	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R127	NRSA63J-242X	M.RESISTOR CH 1/16W 2.4K	1	
R128,29	NRSA63J-392X	M.RESISTOR CH 1/16W 3.9K	2	
R130-33	NRSA63D-560X	M.RESISTOR CH 1/16W 56	4	
R134	NRSA63D-512X	M.RESISTOR CH 1/16W 5.1K	1	
R139	NRSA63J-330X	M.RESISTOR CH 1/16W 33	1	
R141	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R142	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R147	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R148	NRSA63J-681X	M.RESISTOR CH 1/16W 680	1	
R149	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R150	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R151,52	NRSA63J-224X	M.RESISTOR CH 1/16W 220K	2	
R153	NRSA63J-105X	M.RESISTOR CH 1/16W 1M	1	
R154	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R155-60	NRSA63J-560X	M.RESISTOR CH 1/16W 56	6	
R164-68	NRSA63J-560X	M.RESISTOR CH 1/16W 56	5	
R169,70	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	2	
R171-74	NRSA63J-330X	M.RESISTOR CH 1/16W 33	4	
R176	NRSA63J-105X	M.RESISTOR CH 1/16W 1M	1	
R178	NRSA63J-182X	M.RESISTOR CH 1/16W 75	1	
R179	NRSA63J-561X	M.RESISTOR CH 1/16W 560	1	
R181	NRSA63J-330X	M.RESISTOR CH 1/16W 33	1	
R183	NRSA63J-330X	M.RESISTOR CH 1/16W 33	1	
R301-19	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	19	
R320	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R321-28	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	8	
R329	NRSA63J-474X	M.RESISTOR CH 1/16W 470K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R330-34	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	5	
R335	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R336-52	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	17	
R357	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R358	NRSA63J-472X	M.RESISTOR CH 1/16W 4.7K	1	
R401,02	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	2	
R405	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R406-10	NRSA63J-101X	M.RESISTOR CH 1/16W 100	5	
R411	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	1	
R412,13	NRSA63J-101X	M.RESISTOR CH 1/16W 100	2	
R415-17	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	3	
R418-24	NRSA63J-101X	M.RESISTOR CH 1/16W 100	7	
R425-28	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	4	
R429-31	NRSA63J-101X	M.RESISTOR CH 1/16W 100	3	
R432	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	1	
R433-52	NRSA63J-101X	M.RESISTOR CH 1/16W 100	20	
R453	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R455	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R456	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R457	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R458	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R459,60	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	2	
R461	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R462	NRSA63J-125X	M.RESISTOR CH 1/16W 1.2M	1	
R463	NRSA63J-824X	M.RESISTOR CH 1/16W 820K	1	
R464	NRSA63J-275X	M.RESISTOR CH 1/16W 2.7M	1	
R465	NRSA63J-824X	M.RESISTOR CH 1/16W 820K	1	
R466	NRSA63J-275X	M.RESISTOR CH 1/16W 2.7M	1	
R467	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R468	NRSA63J-125X	M.RESISTOR CH 1/16W 1.2M	1	
R469	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R470-73	NRSA63J-101X	M.RESISTOR CH 1/16W 100	4	
R474-80	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	7	
R481,82	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	2	
R483-85	NRSA63J-332X	M.RESISTOR CH 1/16W 3.3K	3	
R486-90	NRSA63J-101X	M.RESISTOR CH 1/16W 100	5	
R491	NRSA63J-330X	M.RESISTOR CH 1/16W 33	1	
R492	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R493	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R494	NRSA63J-101X	M.RESISTOR CH 1/16W 100	1	
R495	NRSA63D-273X	M.RESISTOR CH 1/16W 27K	1	
R501	NRSA63J-333X	M.RESISTOR CH 1/16W 33K	1	
RA101	NRZ0015-102X	COMBI.R-R 1K	1	
RA102,03	NRZ0015-103X	M.RESISTOR 10K	2	
RA104-07	NRZ0015-330X	COMBI.R-R 33	4	
RA401-03	NRZ0015-101X	COMBI.R-R 100	3	
TP1	NNZ0071-001X	TEST POINT	1	
X101	NAX0141-001X	CRYSTAL OSCILLATOR	1	
X102	NAX0206-001X	CRYSTAL OSCILLATOR	1	
X301	NAX0348-001X	CRYSTAL OSCILLATOR	1	
■	LK2124B0B	MDA/DC P.C.BOARD	1	(RTL)
C104	NBE21AM-106X	T.CAPACITOR 10V 10U	1	
C105	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C106	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C107	NCB31HK-152X	C.CAPACITOR 50V 1500P	1	
C108,09	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C120-25	NCB31HK-103X	C.CAPACITOR 50V 0.01U	6	
C126	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C127-29	NCB31AK-224X	C.CAPACITOR 10V 0.22U	3	
C130	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C131-33	NCB31CK-104X	C.CAPACITOR 16V 0.1U	3	
C134-36	NCB31CK-223X	C.CAPACITOR 16V 0.022U	3	
C137,38	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C139	NEH90JM-226X	E.CAPACITOR 6.3V 0.22U	1	
C140	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C142	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C143	NCB31CK-223X	C.CAPACITOR 16V 0.022U	1	
C144	NCB31CK-473X	C.CAPACITOR 16V 0.047U	1	
C145	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C147	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C148	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C149	NEH90JM-226X	E.CAPACITOR 6.3V 22U	1	
C156	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C157	NDC31HJ-102X	C.CAPACITOR 50V 1000P	1	
C158,59	NCB31CK-223X	C.CAPACITOR 16V 0.022U	2	
C160	NDC31HJ-471X	C.CAPACITOR 50V 470P	1	
C201	NCB31CK-223X	C.CAPACITOR 16V 0.022U	1	
C202	NEH91CM-106X	E.CAPACITOR 16V 10U	1	
C203	NCB31CK-223X	C.CAPACITOR 16V 0.022U	1	
C204	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C205	NCB31HK-153X	C.CAPACITOR 50V 0.015U	1	
C206	NCB31CK-273X	C.CAPACITOR 16V 0.027U	1	
C207	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C209	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C210	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C211-13	NCB31CK-223X	C.CAPACITOR 16V 0.022U	3	
C214-16	NCB31CK-104X	C.CAPACITOR 16V 0.1U	3	
C217	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C218,19	NCB31HK-103X	C.CAPACITOR 50V 0.01U	2	
C220	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C221	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C301	NEH91VM-106X	E.CAPACITOR 35V 10U	1	
C303	NDC31HJ-221X	C.CAPACITOR 50V 0.1U	1	
C304	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C305	NCB11CK-475X	C.CAPACITOR 16V 4.7U	1	
C306,07	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C308	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C309	NBE21DM-475X	T.CAPACITOR 20V 4.7U	1	
C311	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C312	NBE21DM-475X	T.CAPACITOR 20V 4.7U	1	
C313	NDC31HJ-102X	C.CAPACITOR 50V 1000P	1	
C314	NDC31HJ-221X	C.CAPACITOR 50V 220P	1	
C315	NCB31CK-104X	C.CAPACITOR 16V 0.1U	1	
C316	NCB11CK-475X	C.CAPACITOR 16V 4.7U	1	
C317,18	NCB31CK-104X	C.CAPACITOR 16V 0.1U	2	
C319	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C320	NCB11CK-475X	C.CAPACITOR 16V 4.7U	1	
C321	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C322	NCB11CK-475X	C.CAPACITOR 16V 4.7U	1	
C323	NDC31HJ-102X	C.CAPACITOR 50V 1000P	1	
C401	NDC31HJ-221X	C.CAPACITOR 50V 220P	1	
C402	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C403	NCB11CK-475X	C.CAPACITOR 16V 4.7U	1	
C404	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C405	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C407	NCF11CZ-225X	C.CAPACITOR 16V 2.2U	1	
C408	NCF31AZ-105X	C.CAPACITOR 10V 1U	1	
C409	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C410-12	NCB10JK-106X	C.CAPACITOR 6.3V 10U	3	
C413	NCB31AK-224X	C.CAPACITOR 10V 0.22U	1	
C414,15	NCB10JK-106X	C.CAPACITOR 6.3V 10U	2	
C416	NCB11CK-105X	C.CAPACITOR 16V 1U	1	
C417-19	NBE21AM-106X	T.CAPACITOR 10V 10U	3	
C420	NCB31AK-224X	C.CAPACITOR 10V 0.22U	1	
C421	NCB10JK-106X	C.CAPACITOR 6.3V 10U	1	
C422	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C423,24	NBE21AM-106X	T.CAPACITOR 10V 10U	2	
C425	NCB31HK-103X	C.CAPACITOR 50V 0.01U	1	
C426,27	NBE21AM-106X	T.CAPACITOR 10V 10U	2	
CN105	GF0508C1-26W	CONNECTOR 26P	1	
CN108	GA1501C2-08W	CONNECTOR 8P	1	
CN111	SS30662-004	CONNECTOR 4P	1	
CN112	GF0508C1-12W	CONNECTOR 12P	1	
CN113	GF0508C1-18W	CONNECTOR 18P	1	
CN114	GA1201C2-02X	CONNECTOR 2P	1	
CN116	GF0508C1-20W	CONNECTOR 20P	1	
CN117	GA1501C2-02W	CONNECTOR 2P	1	
CN119	GA1201C2-02X	CONNECTOR 2P	1	

Components identified with the mark ⚠ have the special characterisitics for safety.
When replacing any of these components, use onlly the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
D11	DAP222	DIODE	1	
D12	MA3110L	ZENER DIODE	1	
D13	DAP222	DIODE	1	
D22	MA3020	ZENER DIODE	1	
D31,32	SFPB-72-W	DIODE	2	
D33	DAP202U	DIODE	1	
D34	SFPB-72-W	DIODE	1	
D35	DA204U	DIODE	1	
D36	SFPB-72-W	DIODE	1	
D37	DAP202U	DIODE	1	
D41,42	SFPB-72-W	DIODE	2	
⚠ F1	NMFZ011-1R6X	FUSE	1	
IC11	BA6865KV	IC	1	
IC12	BA6417F	IC	1	
IC21	BA6862FS	IC	1	
IC22	BA10358F-XE	IC	1	
IC23	BA10393F	IC	1	
IC31,32	BA9743AFV	IC	2	
IC41	BA9743AFV	IC	1	
IC42	MM1572KN	IC	1	
IC43	MM1572FN	IC	1	
K1	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
L21	NQL24CN-220X	COIL 22UH	1	
L31	NQL42EM-220X	COIL 22UH	1	
L33-36	NQL24CN-220X	COIL 22UH	4	
L41-45	NQL24CN-220X	COIL 22UH	5	
LC11	NQR0436-001X	LC FILTER	1	
Q11-13	2SB1302/ST/	TRANSISTOR	3	
Q14,15	2SC4081	TRANSISTOR	2	
Q21-23	2SB1302/ST/	TRANSISTOR	3	
Q31-33	2SJ484WY	FET	3	
Q34	DTC124EUA	TRANSISTOR	1	
Q35	2SB1302/ST/	TRANSISTOR	1	
Q36	2SJ484WY	FET	1	
Q37	DTA114EUA	TRANSISTOR	1	
Q41,42	2SJ484WY	FET	2	
Q43	2SC4097/QR/	TRANSISTOR	1	
Q44	2SA1577	TRANSISTOR	1	
Q45	2SC4097/QR/	TRANSISTOR	1	
Q46	2SA1577	TRANSISTOR	1	
Q51	2SC4097/QR/	TRANSISTOR	1	
Q52	2SA1577	TRANSISTOR	1	
Q53	2SC4097/QR/	TRANSISTOR	1	
Q54	2SA1577	TRANSISTOR	1	
Q55	2SC4097/QR/	TRANSISTOR	1	
Q56	2SA1577	TRANSISTOR	1	
Q57	2SC4097/QR/	TRANSISTOR	1	
Q58	2SA1577	TRANSISTOR	1	
QA11	BA6254FS	TRANSIST.ARRAY	1	
R101	NRSA63J-155X	M.RESISTOR CH 1/16W 1.5M	1	
R102	NRSA63J-274X	M.RESISTOR CH 1/16W 270K	1	
R103	NRSA63J-681X	M.RESISTOR CH 1/16W 680	1	
R104	NRSA63J-272X	M.RESISTOR CH 1/16W 2.7K	1	
R105	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R106-09	NRSA63J-511X	M.RESISTOR CH 1/16W 510	4	
R110	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R111	NRV142F-R22X	M.RESISTOR CH 1/4W 0.22	1	
R112	NRS12BK-R68X	M.RESISTOR CH 1/2W 0.68	1	
R113	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R114	NRSA63J-154X	M.RESISTOR CH 1/16W 150K	1	
R115	NRSA63J-202X	M.RESISTOR CH 1/16W 2K	1	
R116	NRSA63J-474X	M.RESISTOR CH 1/16W 470K	1	
R117,18	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	2	
R120	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R121	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	1	
R122	NRSA63J-203X	M.RESISTOR CH 1/16W 20K	1	
R123	NRSA63J-393X	M.RESISTOR CH 1/16W 39K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R124,25	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	2	
R126	NRSA63J-274X	M.RESISTOR CH 1/16W 270K	1	
R127	NRSA63J-272X	M.RESISTOR CH 1/16W 2.7K	1	
R128	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R131	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R132	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R133	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R134	NRSA63J-472X	M.RESISTOR CH 1/16W 4.7K	1	
R135,36	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	2	
R138	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R139	NRS12BK-R68X	M.RESISTOR CH 1/2W 0.68	1	
R201	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R202	NRSA63J-474X	M.RESISTOR CH 1/16W 470K	1	
R203	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R204	NRSA63J-124X	M.RESISTOR CH 1/16W 120K	1	
R205	NRSA63J-153X	M.RESISTOR CH 1/16W 15K	1	
R206	NRSA63J-154X	M.RESISTOR CH 1/16W 150K	1	
R207	NRSA63J-272X	M.RESISTOR CH 1/16W 2.7K	1	
R208	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R209,10	NRS144J-1R0X	M.RESISTOR CH 1/4W 1	2	
R211	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R212	NRSA63J-393X	M.RESISTOR CH 1/16W 39K	1	
R213	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R214	NRSA63J-273X	M.RESISTOR CH 1/16W 27K	1	
R215	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R216	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R217,18	NRSA63J-121X	M.RESISTOR CH 1/16W 120	2	
R219	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R220	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R221	NRSA63J-474X	M.RESISTOR CH 1/16W 470K	1	
R222-24	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	3	
R225	NRSA63J-563X	M.RESISTOR CH 1/16W 56K	1	
R226-30	NRSA63J-105X	M.RESISTOR CH 1/16W 1M	5	
R301	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R302	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R303,04	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	2	
R305	NRSA63J-333X	M.RESISTOR CH 1/16W 33K	1	
R306	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R307	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R308	NRSA63J-683X	M.RESISTOR CH 1/16W 68K	1	
R309	NRSA63J-562X	M.RESISTOR CH 1/16W 5.6K	1	
R310	NRSA63J-153X	M.RESISTOR CH 1/16W 15K	1	
R311	NRSA63J-393X	M.RESISTOR CH 1/16W 39K	1	
R312	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R313	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R314	NRSA63J-153X	M.RESISTOR CH 1/16W 15K	1	
R315	NRSA63J-562X	M.RESISTOR CH 1/16W 5.6K	1	
R316	NRSA63J-104X	M.RESISTOR CH 1/16W 100K	1	
R317	NRSA63J-823X	M.RESISTOR CH 1/16W 82K	1	
R318,19	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	2	
R320	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R321,22	NRSA63D-103X	M.RESISTOR CH 1/16W 10K	2	
R323	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R324	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R325	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	1	
R326	NRSA63J-472X	M.RESISTOR CH 1/16W 4.7K	1	
R327	NRSA63J-152X	M.RESISTOR CH 1/16W 1.5K	1	
R328	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R329	NRSA63J-563X	M.RESISTOR CH 1/16W 56K	1	
R330	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R331	NRSA63J-473X	M.RESISTOR CH 1/16W 47K	1	
R332	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R333	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R334	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R335	NRSA63J-333X	M.RESISTOR CH 1/16W 33K	1	
R336	NRSA63J-562X	M.RESISTOR CH 1/16W 5.6K	1	
R337	NRSA63J-223X	M.RESISTOR CH 1/16W 22K	1	
R338	NRSA63J-333X	M.RESISTOR CH 1/16W 33K	1	
R339	NRSA63J-563X	M.RESISTOR CH 1/16W 56K	1	
R340	NRSA63J-823X	M.RESISTOR CH 1/16W 82K	1	
R341	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	
R342-45	NRSA63J-100X	M.RESISTOR CH 1/16W 10	4	
R346	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R351	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	1	
R401	NRSA63J-103X	M.RESISTOR CH 1/16W 10K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R402,03	NRSA63J-0R0X	M.RESISTOR CH 1/16W 0	2	
R404	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	1	
R405	NRSA63D-332X	M.RESISTOR CH 1/16W 3.3K	1	
R406,07	NRSA63D-472X	M.RESISTOR CH 1/16W 4.7K	2	
R408	NRSA63D-473X	M.RESISTOR CH 1/16W 47K	1	
R409	NRSA63D-273X	M.RESISTOR CH 1/16W 27K	1	
R410	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R411	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R412,13	NRSA63D-182X	M.RESISTOR CH 1/16W 1.8K	2	
R414	NRSA63D-122X	M.RESISTOR CH 1/16W 1.2K	1	
R415	NRSA63J-222X	M.RESISTOR CH 1/16W 2.2K	1	
R416	NRSA63J-102X	M.RESISTOR CH 1/16W 1K	1	
R417	NRSA63D-562X	M.RESISTOR CH 1/16W 5.6K	1	
R418	NRSA63D-272X	M.RESISTOR CH 1/16W 2.7K	1	
R419	NRSA63J-330X	M.RESISTOR CH 1/16W 33	1	
R420,21	NRSA63J-100X	M.RESISTOR CH 1/16W 10	2	
■	LK2123A0A1	MECHA P.C.BOARD	1	(RTL)
CN104	GF0508F1-13X	CONNECTOR 13P	1	
CN106	GF0508F1-20X	CONNECTOR 20P	1	
CN116	GF0508F1-20X	CONNECTOR 20P	1	
CN124	GF0508F1-18X	CONNECTOR 18P	1	
CN125	GF0508F2-10X	CONNECTOR 10P	1	
CN128	GA1201C2-02X	CONNECTOR 2P	1	
S1	NSW0171-001	PUSH SWITCH	1	
S2,S3	NSW0170-001	PUSH SWITCH	2	
TH1	NAD0002-223X	THERMISTOR	1	
VR1	NVQ0006-B14X	V.RESISTOR 10K	1	
■	LK2123B0A2	MECHA CONN P.C.BOARD	1	(RTL)
CN100	GF0508F1-11X	CONNECTOR 11P	1	
CN112	GF0508C1-12W	CONNECTOR 12P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks

SECTION 3
ELECTRICAL ADJUSTMENTS

3.1 PRECAUTIONS FOR ELECTRICAL ADJUSTMENTS

Electrical adjustments should be performed only when they are required, for example, during maintenance. Electrical adjustments that are possible only after mechanism adjustments should be performed after completing these. Before proceeding to perform electrical adjustments, be sure to warm up the unit for at least 10 minutes after turning it on.
Use the 10:1 probe with the oscilloscope unless otherwise specified.

3.1.1 Measuring instruments and Tools required for adjustments

(1) Measuring instruments
- Oscilloscope: 2-trace, 100 MHz or more.
- NTSC/PAL waveform monitor (WFM)
- NTSC/PAL Composite and Y/C video signal generator
- Frequency counter: 10 MHz or more, resolution 100 mV or less.
- Monitor TV

(2) Tools

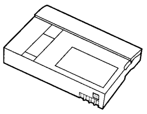
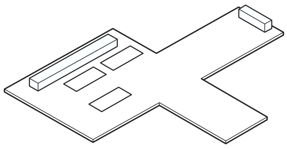
1	Alignment tape
VFK1842	
2	Rewrite board (Jig connector)
VFK1846	

Table 3-1-1

3.1.2 Alignment tape specifications

VFK1842

No.	Video signal	Audio signal	Time (min.)	Applications
1	Moving image	Moving image audio	10	Block noise check
2	Color bars	1 kHz	10	• Interchangeability adjustment • Video/audio play circuit check/adjustment

Table 3-1-2

3.1.3 Signals required for adjustments

NTSC and PAL color bar signals are required on "3.3 VIDEO SYSTEM ADJUTMENT".

NTSC:
100% color bars (100, 0, 100, 0) (Without SETUP)
100% color bars (100, 7.5, 100, 7.5) (With SETUP)
PAL:
100% color bars (100, 0, 100, 0) (PAL does not use SETUP.)

(1) Composite 100% color bars

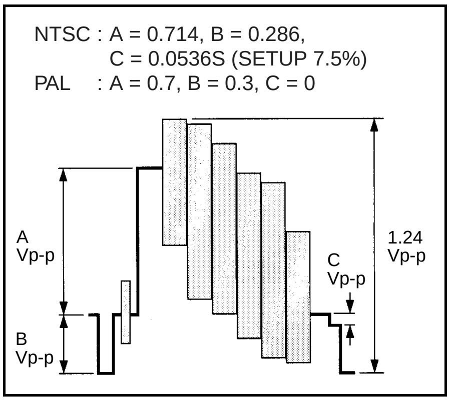

NTSC : A = 0.714, B = 0.286,
C = 0.0536S (SETUP 7.5%)
PAL : A = 0.7, B = 0.3, C = 0
A Vp-p
B Vp-p
C Vp-p
1.24 Vp-p

Fig. 3.1.3 (1)

(2) Y/C 100% color bars

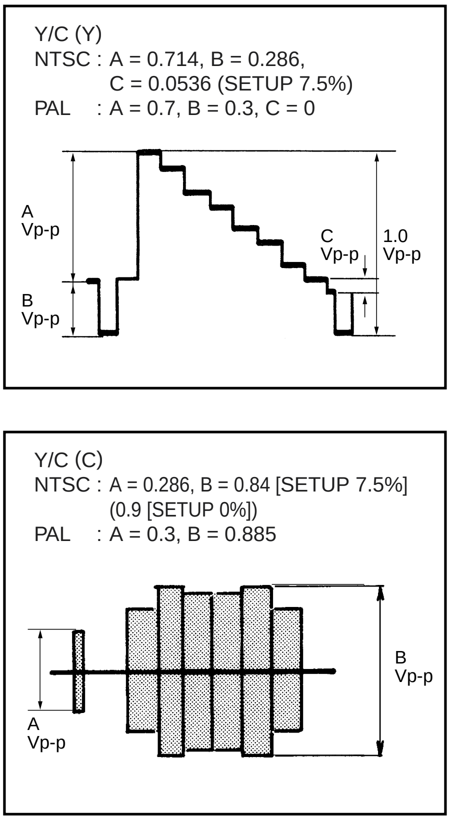

Y/C (Y)
NTSC : A = 0.714, B = 0.286,
C = 0.0536 (SETUP 7.5%)
PAL : A = 0.7, B = 0.3, C = 0
A Vp-p
B Vp-p
C Vp-p
1.0 Vp-p
Y/C (C)
NTSC : A = 0.286, B = 0.84 [SETUP 7.5%]
(0.9 [SETUP 0%])
PAL : A = 0.3, B = 0.885
A Vp-p
B Vp-p

Fig. 3.1.3 (2)

3.1.4 Notes for adjustments

Since the AG-DV2500 is compatible with the recording and playback of the NTSC and PAL signals, it is required that both NTSC and PAL be adjusted.
The NTSC and PAL signals use different Y signal V/S ratios and color levels. Be sure to use the specified signals for the adjustments.

Both the NTSC and PAL signals use a variety of signals differing in the Y levels and color levels, etc. Also note that the NTSC signals include signals both with and without the Setup component.

The AG-DV2500 is provided with input and output level adjustment capabilities only. If a signal of the specified level for color and setup is not available, read the following for the substitution.

(1) Y level adjustments (Both of NTSC and PAL)
If the available Y signal contains a white level of 100 IRE (PAL: 0.7 Vp-p), the signal can be used in the adjustment as described in the given procedure.
If the input signal has the setup, adjust the luminance level from the pedestal to the white peak including the setup.

(2) Setup level adjustment (NTSC only)
The NTSC signal generator usually generates a signal with the Setup component. If it cannot be switched off, follow the alternative adjustment procedure for the signal with Setup, which is provided for each adjustment item.

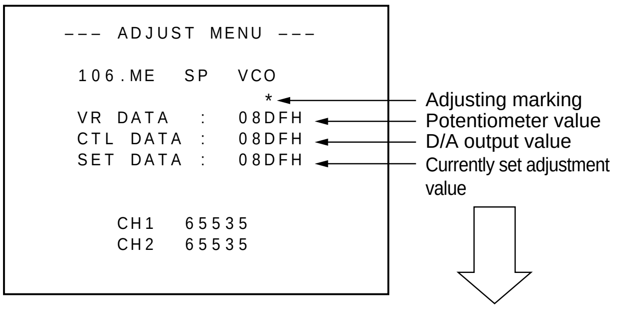
(3) Color level adjustments (Both of NTSC and PAL)
The chroma level is variable depending on whether it is 75% or 100% and on whether the Setup component is present (NTSC only). As a result, a correct adjustment is not possible unless the specified signal is used. If the specified signal is not available, refer to the following.

- Chroma level adjustment
  First measure the input signal what the signal type is (Refer to the table 3.1.4). Then apply the signal (composite or Y/C) to the AG-DV2500 and adjust the output signal level equal to the input type level.
- Burst level adjustment
  The burst level is identical for all signals. There will be no problem if it can be adjusted to NTSC: 0.286 Vp-p (PAL: 0.3 Vp-p). There is no problem whether or not the Setup component is present (NTSC only).

3.1.5 Adjustment menu

(1) Operation method
Use the ADJUST MENU for adjustments. The operating method is as follows.

① Make sure of no cassette in the VTR. While holding the [REW] and [FF] buttons, press the [OPERATE] button to turn the unit on.
② When the unit is turned on, press and hold the [EJECT] button for about 2 seconds until the ADJUST MENU is displayed.
③ Press the ► (FF) or ◄ (REW) button to select adjustment item.
④ Press the [SET] (PAUSE) button so that the "*" marking blinks and, while observing the specified TP, the measuring instrument and others, press the ▲ (PLAY) button or ▼ (STOP) button to adjust the value to the specified value.
(Pressing the [A.DUB] button simultaneously with the ▲ or ▼ button varies the adjustment value by ±10 steps.)



```
--- ADJUST MENU ---

106.ME   SP   VCO
                *
VR DATA   :   08DFH
CTL DATA  :   08DFH
SET DATA  :   08DFH


     CH1   65535
     CH2   65535
```

Pressing the [SET] button causes the value being adjusted with the potentiometer to be the adjustment value.

⑤ After completing the adjustment, press the [SET] (PAUSE) button again to turn the "*" marking off and store the adjustment value. (The adjustment value is not stored and moving to the next adjustment item can not be performed unless the [SET] (PAUSE) button is pressed.)
⑥ Press the ► (FF) or ◄ (REW) button to select the next adjustment item.

Notes:
- When the adjustment procedure requires a mode transition to PLAY, etc., use the accessory of wireless remote controller.
- After completing all of the required settings, press [OPERATE] button to turn off the power.
- To return to normal operating status, turn the unit off then on again. If this is not performed, since the unit is turned on in the adjustment mode, pressing the MENU button displays an adjustment menu and it is not possible to display the normal operation menu.

[NTSC]

Type	Y level [mVp-p]	White [mV]	Sync [mV]	Setup [mV]	Burst [mVp-p]	YL/B [mVp-p]	CY/R [mVp-p]	G/MG [mVp-p]
Y 100%, color 100% level, setup 0%	1000	714	286	0	286	640	908	848
Y 100%, color 100% level, setup 7.5%	1000	714	286	53.6	286	592	836	780
Y 100%, color 75% level, setup 0%	1000	714	286	0	286	480	681	636
Y 100%, color 75% level, setup 7.5%	1000	714	286	53.6	286	444	627	585

[PAL]

Type	Y level [mVp-p]	White [mV]	Sync [mV]	Burst [mVp-p]	YL/B [mVp-p]	CY/R [mVp-p]	G/MG [mVp-p]
Y 100%, color 100% level	1000	700	300	300	627	885	827
Y 100%, color 75% level	1000	700	300	300	471	664	620

YL/B: Yellow and Blue level. CY/R: Cyan and Red level. G/MG: Green and Magenta level.
Table 3.1.4

(2) Adjustment items and initial data
The initial values are merely the typical values, which are written automatically after the EEP-ROM replacement, etc. As the adjustments will not be correct if these values are left, be sure to perform actual adjustments before use.
The hatched rows in the following table indicate that adjustments are not necessary, so do not change the value of the initial settings.

No.	Adjustment item (OSD characters)	Initial value (CTL DATA)	Adjustment range
100	PB SW POINT	Auto adjustment	0000H~FFFFH
105	ME REC CURRENT	121	0~255
106	ME SP VCO	0890(Hex)	0000H~FFFFH
107	ME LP VCO	0892(Hex)	0000H~FFFFH
110	FS PLL 48kHz	25	0~255
111	FS PLL 44.1kHz	83	0~255
112	FS PLL 32kHz	25	0~255
113	27MHz VCO	143	0~255
114	ATF GAIN	110	0~255
115	AGC GAIN	132	0~255
116	DUMP CTL	68	0~255
117	PB VCO	128	0~255
118	BGNEND SENS	18	0~255
119	FWD TORQUE	192	0~255
120	REV TORQUE	192	0~255
121	UNLOAD TORQUE	72	0~255
200	OSD ADJ	53	0~255
210	PB Y LEV(S OFF)	129	0~255
211	PB SETUP LEV(S OFF)	192	192~207
212	PB SYNC LEV(S OFF)	89	0~255
213	PB C LEV(S OFF)	95	0~255
214	PB BUR LEV(S OFF)	205	0~255
215	YC REC Y LEV(S OFF)	94	0~255
216	YC REC ST LV(S OFF)	9	0~127
217	YC REC C LEV(S OFF)	0	-16~15
218	LE REC Y LEV(S OFF)	92	0~255
219	LE REC ST LV(S OFF)	8	0~127
220	LE REC C LEV(S OFF)	0	-16~15
221	YC EE Y LEV(S OFF)	96	0~255
222	YC EE C LEV(S OFF)	174	0~255
223	LE EE Y LEV(S OFF)	95	0~255
224	LE EE C LEV(S OFF)	152	0~255
230	PB Y LEV(S ON)	119	0~255
231	PB SETUP LEV(S ON)	201	192~207
232	PB SYNC LEV(S ON)	118	0~255
233	PB C LEV(S ON)	87	0~255
234	PB BUR LEV(S ON)	200	0~255
235	YC REC Y LEV(S ON)	94	0~255
236	YC REC ST LV(S ON)	34	0~127
237	YC REC C LEV(S ON)	1	-16~15
238	LE REC Y LEV(S ON)	91	0~255
239	LE REC ST LV(S ON)	31	0~127
240	LE REC C LEV(S ON)	2	-16~15
241	YC EE Y LEV(S ON)	95	0~255
242	YC EE C LEV(S ON)	172	0~255
243	LE EE Y LEV(S ON)	96	0~255
244	LE EE C LEV(S ON)	149	0~255
260	PB Y LEV(PAL)	127	0~255
261	PB SETUP LEV(PAL)	0	0~16
262	PB SYNC LEV(PAL)	94	0~255
263	PB C LEV(PAL)	95	0~255
264	PB BUR LEV(PAL)	29	0~255
265	YC REC Y LEV(PAL)	104	0~255
266	YC REC ST LV(PAL)	3	0~127
267	YC REC C LEV(PAL)	-16	-16~15
268	LE REC Y LEV(PAL)	101	0~255
269	LE REC ST LV(PAL)	2	0~127
270	LE REC C LEV(PAL)	-16	-16~15
271	YC EE Y LEV(PAL)	94	0~255
272	YC EE C LEV(PAL)	233	0~255
273	LE EE Y LEV(PAL)	93	0~255
274	LE EE C LEV(PAL)	206	0~255

Table 3.1.5 Adjustment menu items

3.2 DVC UNIT ADJUSTMENTS

Preparation : Connect the Rewrite board (VFK1846) to CN4004 on the Main board. Connect it in the orientation shown in Fig. 3.2, so that the test point surface (component mounting surface) faces toward the rear.

NOTE : DVC UNIT ADJUSTMENTS can be completed if NTSC mode is performed.
Set the NTSC/PAL switch of the rear panel to NTSC.

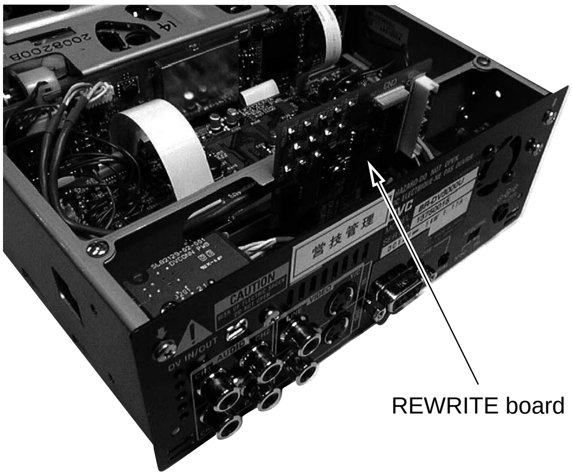
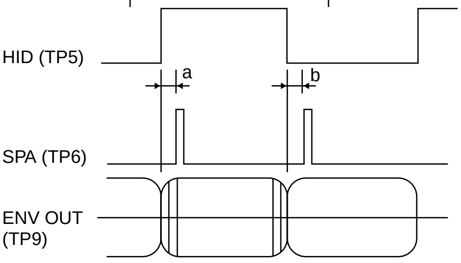


Fig. 3.2 Rewrite board connection method

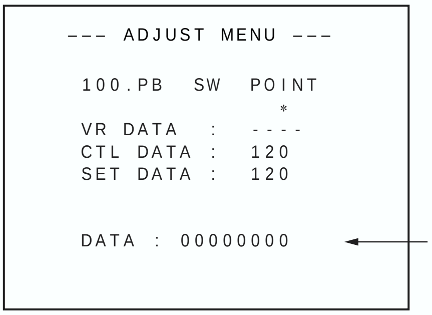
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
1	PB switching point adjustment	Alignment tape, VFK1842 color bar recorded section	• PLAY • ADJUST MENU, 100. PB SW POINT	◎ TP6 (SPA) ◎ TP9 (ENV OUT) TRIG: TP5 (HID) GND: TP1 (GND) [Rewrite board] ⇧ Auto adjustment ☆ a and b = 126 µ sec ± 10 µ sec	(1) Select ADJUST MENU No. 100, "PB SW POINT". (2) Playback the alignment tape. Confirm that the compatibility adjustment has been performed and the FM waveform at TP9 (ENV OUT) is flat and stable. (3) Press the [SET] button to cause the * marking to blink. The PB switching point will be adjusted automatically.



a, b : 126µ sec ±10µ sec

Fig. 3.2.1(1)

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
					(4) Measure TP6 (SPA) by triggering TP5 (HID) and confirm that the values a and b are within the specified ranges. (5) Press the [PLAY] button a few times to display the adjustment data in the "DATA:" field. (The DATA value should not be 00000000 or FFFFFFFF.) (6) Press the [SET] button to store the adjustment data. **NOTE:** **Make sure that the data value is displayed before pressing the [SET] button. If this adjustment is completed before the data value is displayed the adjustment value will not be put into the memory.**



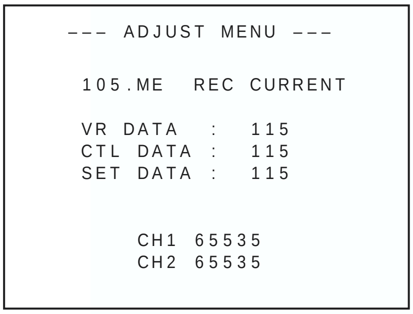
```
--- ADJUST MENU ---

 100.PB  SW  POINT
               *
 VR DATA   :  ----
 CTL DATA  :  120
 SET DATA  :  120


 DATA  :  00000000
```

Press the [PLAY] button a few times to display data.

After displaying the data, press the [SET] button to complete the adjustment.

Fig. 3.2.1(2)

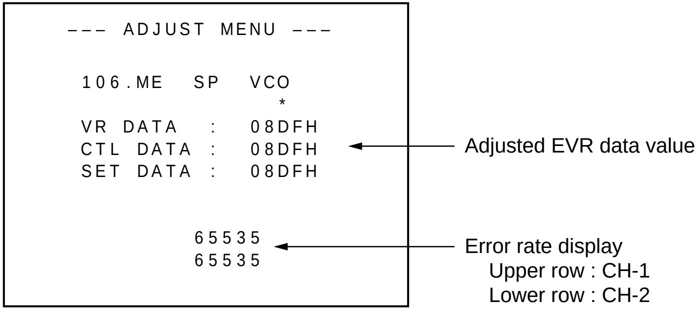
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
2	ME recording current adjustment		• EE • ADJUST MENU, 105. ME REC CURRENT	◎ Monitor display ⇧ [PLAY] and [STOP] buttons ☆ SET DATA = 115	(1) Select ADJUST MENU No. 105, "ME REC CURRENT". (2) Check the set data so that the value is “115” (Recording current is approx. 360 mVp-p). If not, adjust the value to “115” (3) Press the [SET] button to store the adjustment data.



```
--- ADJUST MENU ---

 105.ME  REC CURRENT

 VR DATA   :  115
 CTL DATA  :  115
 SET DATA  :  115


      CH1  65535
      CH2  65535
```

Fig. 3.2.2

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
3	ME SP VCO offset adjustment (Error rate adjustment)	Recording tape (brand-new tape) Moving Picture	• Self-REC/ PLAY • ADJUST MENU, 106. ME SP VCO	Monitor display [PLAY] and [STOP] buttons Minimum error rate, which should be ≦ 498 (per CH). (Viterbi : OFF)	**(Notes)** • **Be sure to use a brand-new tape for the ME SP VCO offset adjustment.** • **Be sure to clean the head with a head cleaning tape before adjustment.** • **The error rate should be measured with the Viterbi OFF. The Viterbi is switched OFF automatically when the adjustment mode is entered.** • **The error rate value is displayed in decimal form.** (1) Record a moving image in advance on the NEW recording tape for 5 minutes. (2) Select ADJUST MENU No. 106, "ME SP VCO". (3) Playback the recorded tape, press the [STOP] button to decrease the adjustment EVR data and freeze the image. (Pressing the [A.DUB] button simultaneously with the ▲ or ▼ button varies the adjustment value by ± 10 steps.) (4) Increase the EVR data gradually until the block noise just disappears. The current value is the adjustment value "A". (5) Playback the recorded tape and press the [PLAY] button to increase the EVR data and freeze the image. (6) Decrease the EVR data gradually until the block noise just disappears. The current value is the adjustment value "B". (7) Calculate the intermediate value between the "A" and "B" values. (Since the adjustment values are hex numbers, use a functional computation-capable calculator or the PC calculator provided in Accessories.) C = (A + B)/2 Set the value "C" as the adjustment value. (8) Playback the recorded tape again, confirm that the error rate is within specification. (9) Press the [SET] button to store the adjustment data.



```
--- ADJUST MENU ---

106.ME  SP  VCO
             *
VR DATA   :  08DFH
CTL DATA  :  08DFH
SET DATA  :  08DFH


          65535
          65535
```

Fig. 3.2.3 (1) SP VCO Offset Menu

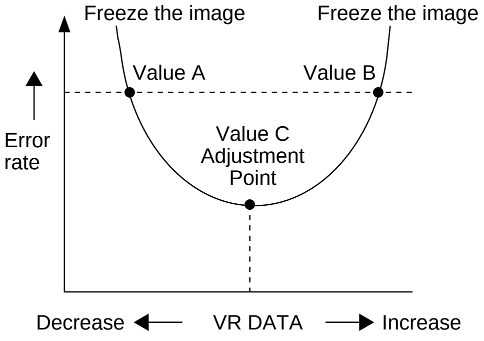


Fig. 3.2.3 (2) Consept of the adjustment

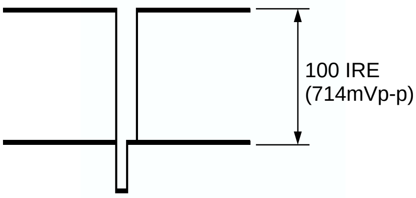
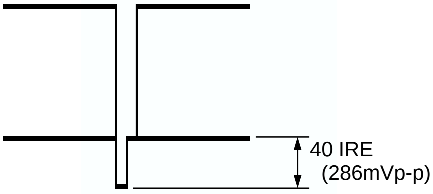
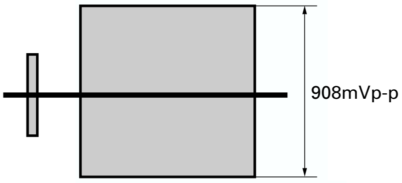
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
4	FS PLL 48 kHz adjustment	Frequency counter No input	EE ADJUST MENU, 110. FS PLL 48 kHz	◎ TP4 (FS PLL) GND: TP1 (GND) [Rewrite board] ⇧ [PLAY] and [STOP] buttons ☆ 12.288 MHz ± 0.1 MHz	(1) Select ADJUST MENU No. 110, "FS PLL 48 kHz". (2) Press the [SET] button to measure frequency. (3) Adjust the frequency to the specified value. (4) Press the [SET] button to store the adjustment data.
5	FS PLL 44.1 kHz adjustment	Frequency counter No input	EE ADJUST MENU, 111. FS PLL 44.1 kHz	◎ TP4 (FS PLL) GND: TP1 (GND) [Rewrite board] ⇧ [PLAY] and [STOP] buttons ☆ 11.2896 MHz ± 0.1 MHz	(1) Select ADJUST MENU No. 111, "FS PLL 44.1 kHz". (2) Press the [SET] button to measure frequency. (3) Adjust the frequency to the specified value. (4) Press the [SET] button to store the adjustment data.
6	FS PLL 32 kHz adjustment	No input.	EE ADJUST MENU,112. FS PLL 32 kHz	◎ Monitor display ⇧ [PLAY] and [STOP] buttons ☆ Value adjusted in No. 110, "FS PLL 48 kHz" in item 4 above.	(1) Select ADJUST MENU No. 112, "FS PLL 32 kHz". (2) Press the [SET] button to measure frequency. (3) Adjust to the same value as the FS PLL 48 kHz adjustment value. (Setting range: 0 to 255) (4) Press the [SET] button to store the adjustment data.
7	27 MHz VCO center frequency adjustment	Frequency counter No input	EE ADJUST MENU,113. 27 MHz VCO	◎ TP7 (MAIN VCO) GND: TP1 (GND) [Rewrite board] ⇧ [PLAY] and [STOP] buttons ☆ 13.5 MHz ± 0.1 MHz	(1) Select ADJUST MENU No. 113, "27 MHz VCO". (2) Press the [SET] button to measure frequency. (3) Adjust the frequency to the specified value. (4) Press the [SET] button to store the adjustment data.

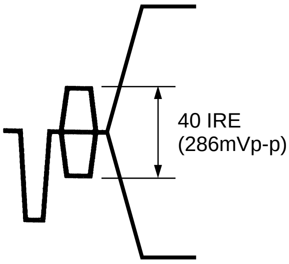
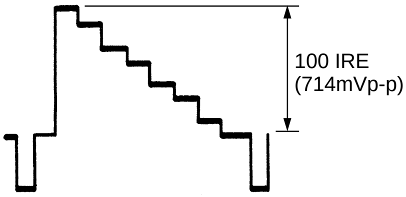
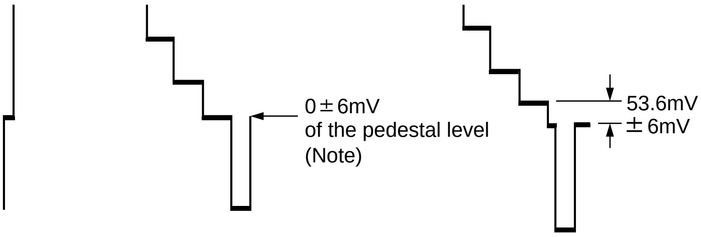
3.3 VIDEO SYSTEM ADJUSTMENTS

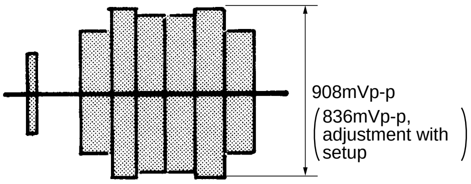
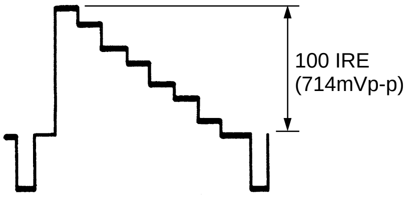
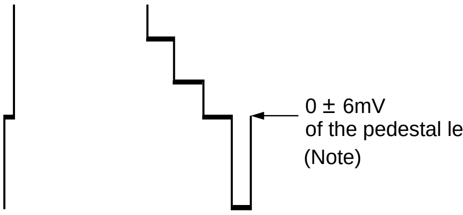
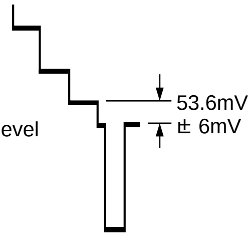
- Use NTSC signals for the NTSC adjustments and PAL signals for the PAL adjustments.
- Use the specified signals to make adjustments whenever possible. When there are no specified signals, please refer to the “3.1.4 Notes for adjustments”.
- The monitor image may fluctuate horizontally during adjustments. This phenomenon occurs only in the adjustment mode and does not affect the adjustment results.
- When an item is selected in the ADJUST MENU and INPUT SELECT SW sets to LINE or Y/C, the INPUT SELECT is switched automatically according to the selected item. If DV input is selected, disable automatic selection.

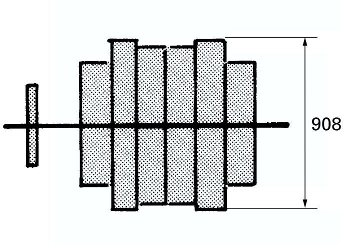
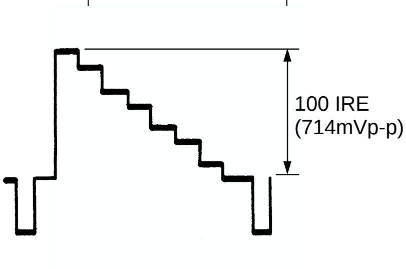
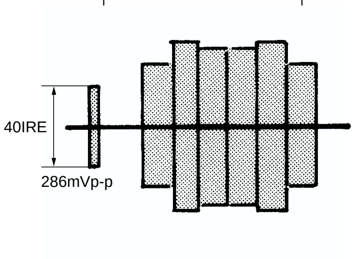
(1) NTSC circuit adjustments

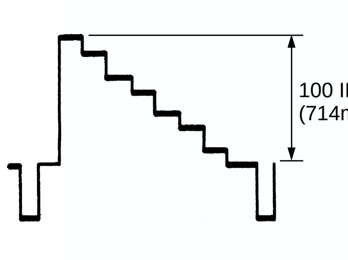
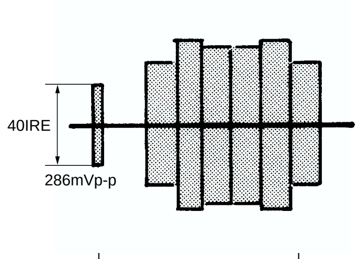
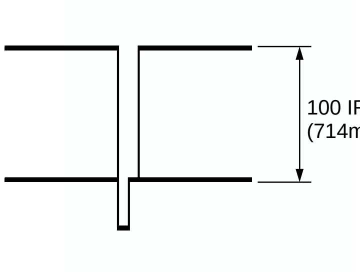
Set the [NTSC/PAL] switch of rear panel to “NTSC”.

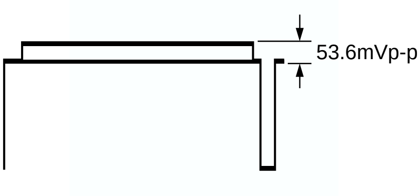
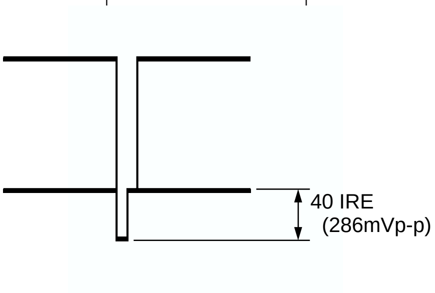
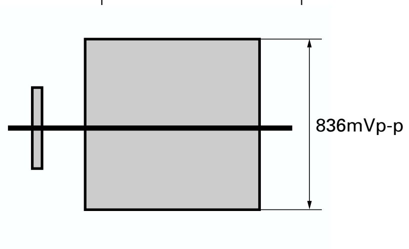
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
1	NTSC PB Y level adjustment (SETUP OFF)  	WFM (NTSC) or oscilloscope 100% WHITE (built-in signal)	EE ADJUST MENU, 210. PB Y LEV (S OFF)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 210, "PB Y LEV (S OFF)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
2	NTSC PB SYNC level adjustment (SETUP OFF)  	WFM (NTSC) or oscilloscope 100% WHITE (built-in signal)	EE ADJUST MENU, 212. PB SYNC LEV (S OFF)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 212, "PB SYNC LEV (S OFF)". (3) Adjust so that the level from the pedestal to the sync tip is as specified. (4) Press the [SET] button to store the adjustment data.
3	NTSC PB Chroma level adjustment (SETUP OFF)  	WFM (NTSC) or oscilloscope RED raster (built-in signal)	EE ADJUST MENU, 213. PB C LEV (S OFF)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 908 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 213, "PB C LEV (S OFF)". (3) Adjust so that the chroma level is as specified. (4) Press the [SET] button to store the adjustment data.

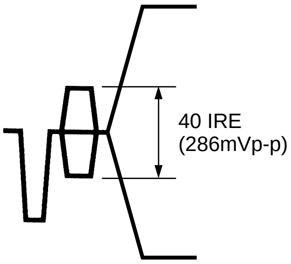
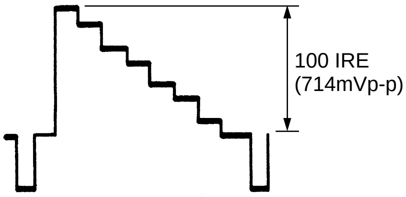
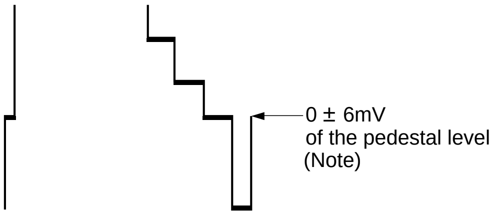
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
4	NTSC PB BURST level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope RED raster (built-in signal)  	EE ADJUST MENU, 214. PB BUR LEV (S OFF)	◎ C OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 214, "PB BUR LEV (S OFF)". (3)Adjust so that the burst level is as specified. (4)Press the [SET] button to store the adjustment data.
5	NTSC Y/C IN REC Y level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%)  	EE ADJUST MENU, 215. YC REC Y LEV (S OFF)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 215, "YC REC Y LEV (S OFF)". (3)Adjust so that the level from the pedestal to 100% WHITE is as specified. (4)Press the [SET] button to store the adjustment data.
6	NTSC Y/C IN REC SETUP level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%)  0 ± 6mV of the pedestal level (Note) 53.6mV ± 6mV Adjustment without setup Adjustment with setup	EE ADJUST MENU, 216. YC REC ST LV (S OFF)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 216, "YC REC ST LV (S OFF)". (3)Adjust so that the setup level is as specified. (4) Press the [SET] button to store the adjustment data. (5)Check ADJUST MENU No. 215, "YC REC Y LEV (S OFF)". If it is deviated, adjust it again. **Reference:** **If a 7.5% setup signal should be used, the same effect as this adjustment can be obtained by adjusting the setup level to 53.6 mV ± 6 mV.** **Note:** Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0.

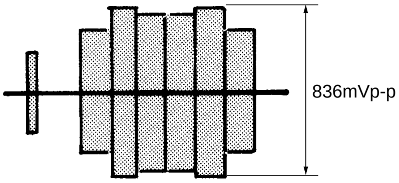
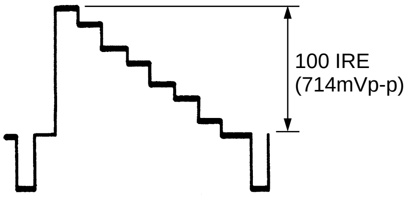
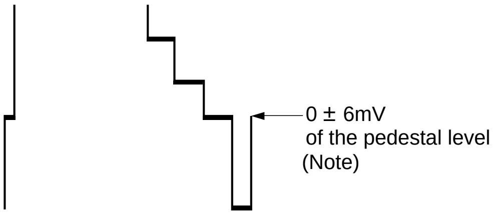
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇡) Adjustment level (☆)	Adjustment procedure
7	NTSC Y/C IN REC C level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%) 	EE ADJUST MENU, 217. YC REC C LEV (S OFF)	◎ C OUT (Y/C jack) (75Ω terminated) ⇡ [PLAY] and [STOP] buttons ☆ 908 mVp-p (RED)	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 217, "YC REC C LEV (S OFF)". (3)Adjust so that the RED color levels are as specified. (4)Press the [SET] button to store the adjustment data. **Reference:** **If 7.5% signal setup should be used, the same effect as this adjustment can be obtained by adjusting the color level to 836 mV p-p (100% color).**
8	NTSC LINE IN REC Y level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%) 	EE ADJUST MENU, 218. LE REC Y LEV (S OFF)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇡ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 218, "LE REC Y LEV (S OFF)". (3)Adjust so that the level from the pedestal to 100% WHITE is as specified. (4)Press the [SET] button to store the adjustment data.
9	NTSC LINE IN REC SETUP level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%)  Adjustment without setup  Adjustment with setup	EE ADJUST MENU, 219. LE REC ST LV (S OFF)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇡ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 219, "LE REC ST LV (S OFF)". (3)Adjust so that the setup level is as specified. (4)Press the [SET] button to store the adjustment data. (5)Check ADJUST MENU No. 218, "LE REC Y LEV (S OFF)". If it is deviated, adjust it again. **Reference:** **If 7.5% signal setup should be used, the same effect as this adjustment can be obtained by adjusting the setup level to 53.6 mV ± 6 mV.** **Note:** Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0.

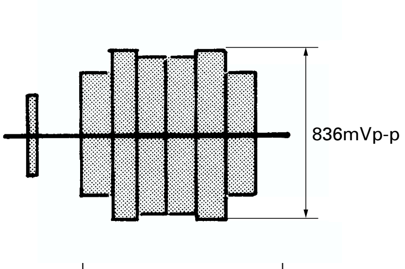
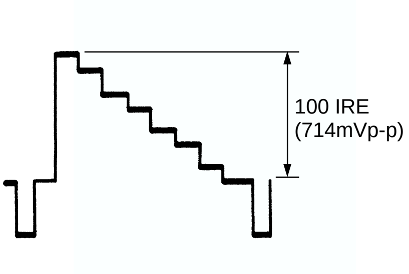
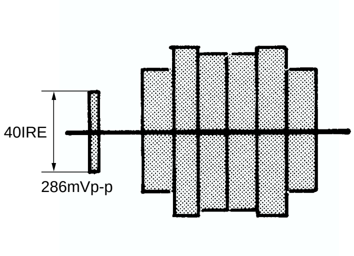
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
10	NTSC LINE IN REC C level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%) 	EE ADJUST MENU, 220. LE REC C LEV (S OFF)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 908 mVp-p (RED)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 220, "LE REC C LEV (S OFF)". (3) Adjust so that the RED color levels are as specified. (4) Press the [SET] button to store the adjustment data. **Reference:** **If 7.5% signal setup should be used, the same effect as this adjustment can be obtained by adjusting the color level to 836 mV p-p (100% color).**
11	NTSC Y/C IN EE Y level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%) 	EE ADJUST MENU, 221. YC EE Y LEV (S OFF)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 221, "YC EE Y LEV (S OFF)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data. **Reference:** **If a 7.5% setup signal should be used, the same effect as this adjustment can be obtained by simply ignoring the setup level.**
12	NTSC Y/C IN EE C level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%) 	EE ADJUST MENU, 222. YC EE C LEV (S OFF)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 222, "YC EE C LEV (S OFF)". (3) Adjust so that the burst levels are as specified. (4) Press the [SET] button to store the adjustment data.

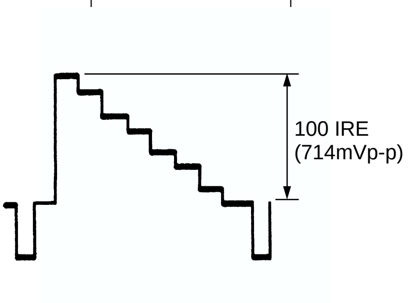
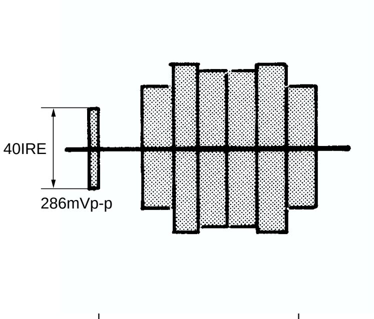
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
13	NTSC LINE IN EE Y level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%)  	EE ADJUST MENU, 223. LE EE Y LEV (S OFF)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 223, "LE EE Y LEV (S OFF)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data. **Reference:** **If a 7.5% setup signal should be used, the same effect as this adjustment can be obtained by simply ignoring the setup level.**
14	NTSC LINE IN EE C level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%)  	EE ADJUST MENU, 224. LE EE C LEV (S OFF)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 224, "LE EE C LEV (S OFF)". (3) Adjust so that the burst levels are as specified. (4) Press the [SET] button to store the adjustment data.
15	NTSC PB Y level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope 100% WHITE (built-in signal)  	EE ADJUST MENU, 230. PB Y LEV (S ON)C LEV	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 230, "PB Y LEV (S ON)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
16	NTSC PB SETUP level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope BLACK BURST (built-in signal)  	EE ADJUST MENU, 231. PB SETUP LEV (S ON)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 53.6 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 231, "PB SETUP LEV (S ON)". (3) Adjust so that the SETUP levels are as specified. (4) Press the [SET] button to store the adjustment data. (5) Check ADJUST MENU No. 230, "PB Y LEV (S ON)" in item 15. If it is deviated, adjust it again.
17	NTSC PB SYNC level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope 100% WHITE (built-in signal)  	EE ADJUST MENU, 232. PB SYNC LEV (S ON)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 232, "PB SYNC LEV (S ON)". (3) Adjust so that the sync level is as specified. (4) Press the [SET] button to store the adjustment data.
18	NTSC PB C level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope RED raster (built-in signal)  	EE ADJUST MENU, 233. PB C LEV (S ON)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 836 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 233, "PB C LEV (S ON)". (3) Adjust so that the RED color level is as specified. (4) Press the [SET] button to store the adjustment data.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
19	NTSC PB BURST level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope RED raster (built-in signal) 	EE ADJUST MENU, 234. PB BUR LEV (S ON)	◎ C OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 234, "PB BUR LEV (S ON)". (3)Adjust so that the burst level is as specified. (4)Press the [SET] button to store the adjustment data.
20	NTSC Y/C In REC Y level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%) 	EE ADJUST MENU, 235. YC REC Y LEV (S ON)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 235, "YC REC Y LEV (S ON)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4)Press the [SET] button to store the adjustment data.
21	NTSC Y/C IN REC SETUP level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%) 	EE ADJUST MENU, 236. YC REC ST LV (S ON)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 236, "YC REC ST LV (S ON)". (3)Adjust so that the setup level is as specified. (4)Press the [SET] button to store the adjustment data. (5)Check ADJUST MENU No. 235, "YC REC Y LEV (S ON)" in item 20 above. If it is deviated, adjust it again. **Note:** Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
22	NTSC Y/C IN REC SETUP level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%)  	EE ADJUST MENU, 237. YC REC C LEV (S ON)	◎ C OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 836 mVp-p (RED)	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 237, "YC REC C LEV (S ON)". (3)Adjust so that the RED color levels are as specified. (4)Press the [SET] button to store the adjustment data.
23	NTSC LINE IN REC Y level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (Setup 7.5%)  	EE ADJUST MENU, 238. LE REC Y LEV (S ON)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 238, "LE REC Y LEV (S ON)". (3)Adjust so that the difference from the pedestal to 100% WHITE is as specified. (4)Press the [SET] button to store the adjustment data.
24	NTSC LINE IN REC SETUP level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (Setup 7.5%)  	EE ADJUST MENU, 239. LE REC ST LV (S ON)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 239, "LE REC ST LV (S ON)". (3)Adjust so that the setup level is as specified. (4)Press the [SET] button to store the adjustment data. **Note:** Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0.

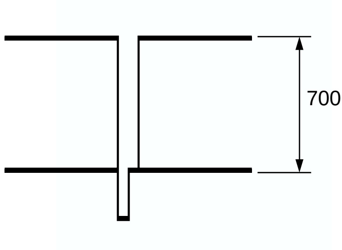
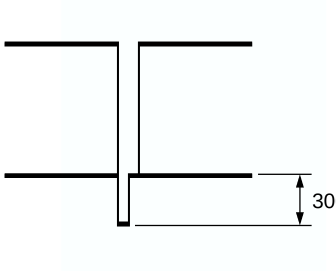
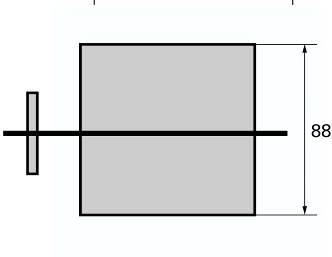
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
25	NTSC LINE IN REC C level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SET UP 7.5 %)  	EE ADJUST MENU, 240. LE REC C LEV (S ON)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 836 mVp-p (RED)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 240, "LE REC C LEV (S ON)". (3) Adjust so that the RED color levels are as specified. (4) Press the [SET] button to store the adjustment data.
26	NTSC Y/C IN EE Y level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%)  	EE ADJUST MENU, 241. YC EE Y LEV (S ON)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 241, "YC EE Y LEV (S ON)". (3) Adjust so that the **level** from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
27	NTSC Y/C IN EE C level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%)  	EE ADJUST MENU, 242. YC EE C LEV (S ON)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 242, "YC EE C LEV (S ON)". (3) Adjust so that the burst levels are as specified. (4) Press the [SET] button to store the adjustment data.

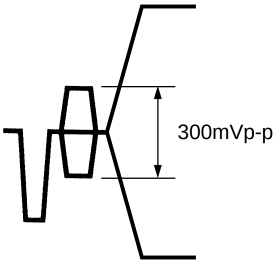
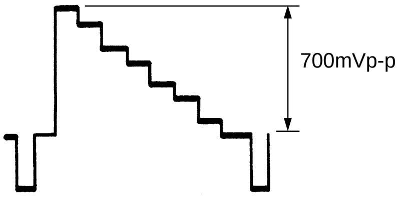
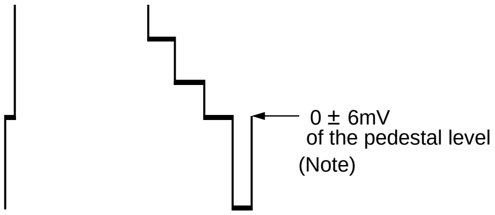
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
28	NTSC LINE IN EE Y level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (Setup 7.5%)  	EE ADJUST MENU, 243. LE EE Y LEV (S ON)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 243, "LE EE Y LEV (S ON)". (3) Adjust so that the **level** from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
29	NTSC LINE IN EE C level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (Setup 7.5%)  	EE ADJUST MENU, 244. LE EE C LEV (S ON)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 244, "LE EE C LEV (S ON)". (3) Adjust so that the burst levels are as specified. (4) Press the [SET] button to store the adjustment data.

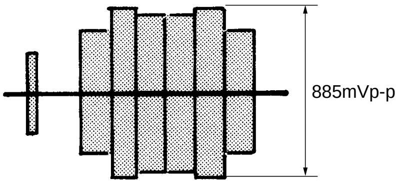
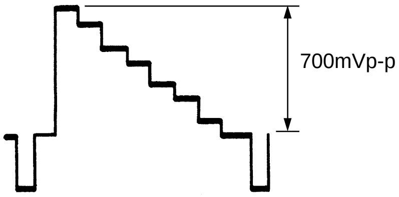
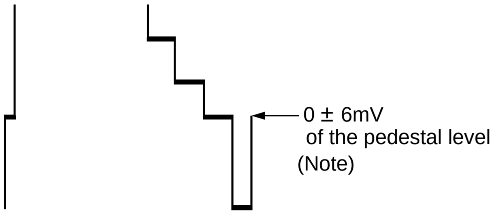
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure

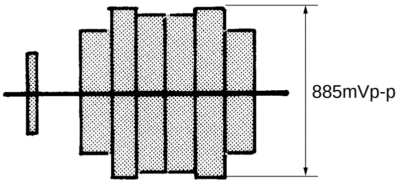
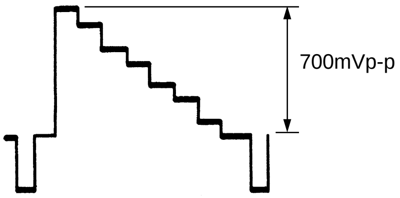
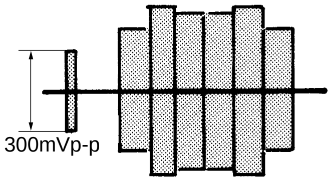
(2) PAL circuit adjustments

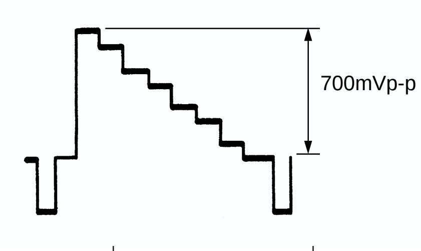
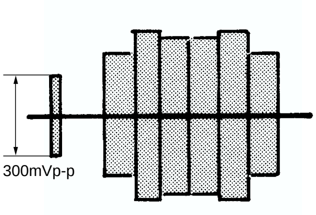
Set the [NTSC /PAL] switch of rear panel to “PAL”.

30	PAL PB Y level adjustment	WFM (PAL) or oscilloscope 100% WHITE (built-in signal) 	EE ADJUST MENU, 260. PB Y LEV (PAL)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 700 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 260, "PB Y LEV (PAL)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data. **Note:** **When this item is selected after an NTSC adjustment item, the built-in 100% WHITE signal may sometimes be unable to be output. In this case, select No. 262, "PB SYNC LEV (PAL)" and then select No. 260, "PB Y LEV (PAL)" again.**
31	PAL PB SYNC level adjustment	WFM (PAL) or oscilloscope 100% WHITE (built-in signal) 	EE ADJUST MENU, 262. PB SYNC LEV (PAL)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 300 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 262, "PB SYNC LEV (PAL)". (3) Adjust so that the sync level is as specified. (4) Press the [SET] button to store the adjustment data.
32	PAL PB C level adjustment	WFM (PAL) or oscilloscope RED raster (built-in signal) 	EE ADJUST MENU, 263. PB C LEV (PAL)	◎ C OUT (Y/C jack) (75 Ω terminated) ◎ [PLAY] and [STOP] buttons ☆ 885 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 263, "PB C LEV (PAL)". (3) Adjust so that the color levels are as specified. (4) Press the [SET] button to store the adjustment data.

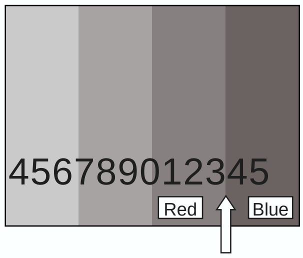
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (↑) Adjustment level (☆)	Adjustment procedure
33	PAL PB BURST level adjustment	WFM (PAL) or oscilloscope RED raster (built-in signal)  	EE ADJUST MENU, 264. PB BUR LEV (PAL)	◎ C OUT (Y/C jack) (75Ω terminated) ↑ [PLAY] and [STOP] buttons ☆ 300 mVp-p	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 264, "PB BUR LEV (PAL)". (3)Adjust so that the burst level is as specified. (4)Press the [SET] button to store the adjustment data.
34	PAL Y/C IN REC Y level adjustment	WFM (PAL) or oscilloscope Y/C IN PAL 100% color bar  	EE ADJUST MENU, 265. YC REC Y LEV (PAL)	◎ Y OUT (Y/C jack) (75Ω terminated) ↑ [PLAY] and [STOP] buttons ☆ 700 mVp-p	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 265, "YC REC Y LEV (PAL)". (3)Adjust so that the level from the pedestal to 100% WHITE is as specified. (4)Press the [SET] button to store the adjustment data.
35	PAL Y/C IN REC SETUP level adjustment	WFM (PAL) or oscilloscope Y/C IN PAL 100% color bar  	EE ADJUST MENU, 266. YC REC ST LV (PAL)	◎ Y OUT (Y/C jack) (75Ω terminated) ↑ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 266, "YC REC ST LV (PAL)". (3)Adjust so that the setup level is as specified. (4)Press the [SET] button to store the adjustment data. (5)Check ADJUST MENU No. 265, "YC REC Y LEV (PAL)" in item 34 above. If it is deviated, adjust it again. **Note:** Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
36	PAL Y/C IN REC C level adjustment  	WFM (PAL) or oscilloscope Y/C IN PAL 100% color bar	EE ADJUST MENU, 267. YC REC C LEV (PAL)	◎ C OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 885 mVp-p (RED)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 267, "YC REC C LEV (PAL)". (3) Adjust so that the RED color levels are as specified. (4) Press the [SET] button to store the adjustment data.
37	PAL LINE IN REC Y level adjustment  	WFM (PAL) or oscilloscope LINE IN PAL 100% color bar	EE ADJUST MENU, 268. LE REC Y LEV (PAL)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 700 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 268, "LE REC Y LEV (PAL)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
38	PAL LINE IN REC SETUP level adjustment  	WFM (PAL) or oscilloscope LINE IN PAL 100% color bar	EE ADJUST MENU, 269. LE REC ST LV (PAL)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 269, "LE REC ST LV (PAL)". (3) Adjust so that the setup level is as specified. (4) Press the [SET] button to store the adjustment data. (5) Check ADJUST MENU No. 268, "LE REC Y LEV (PAL)" in item 37 above. If it is deviated, adjust it again. **Note:** Adjust the setup level by decreasing it from + side, and stop decreasing when it just reaches 0.

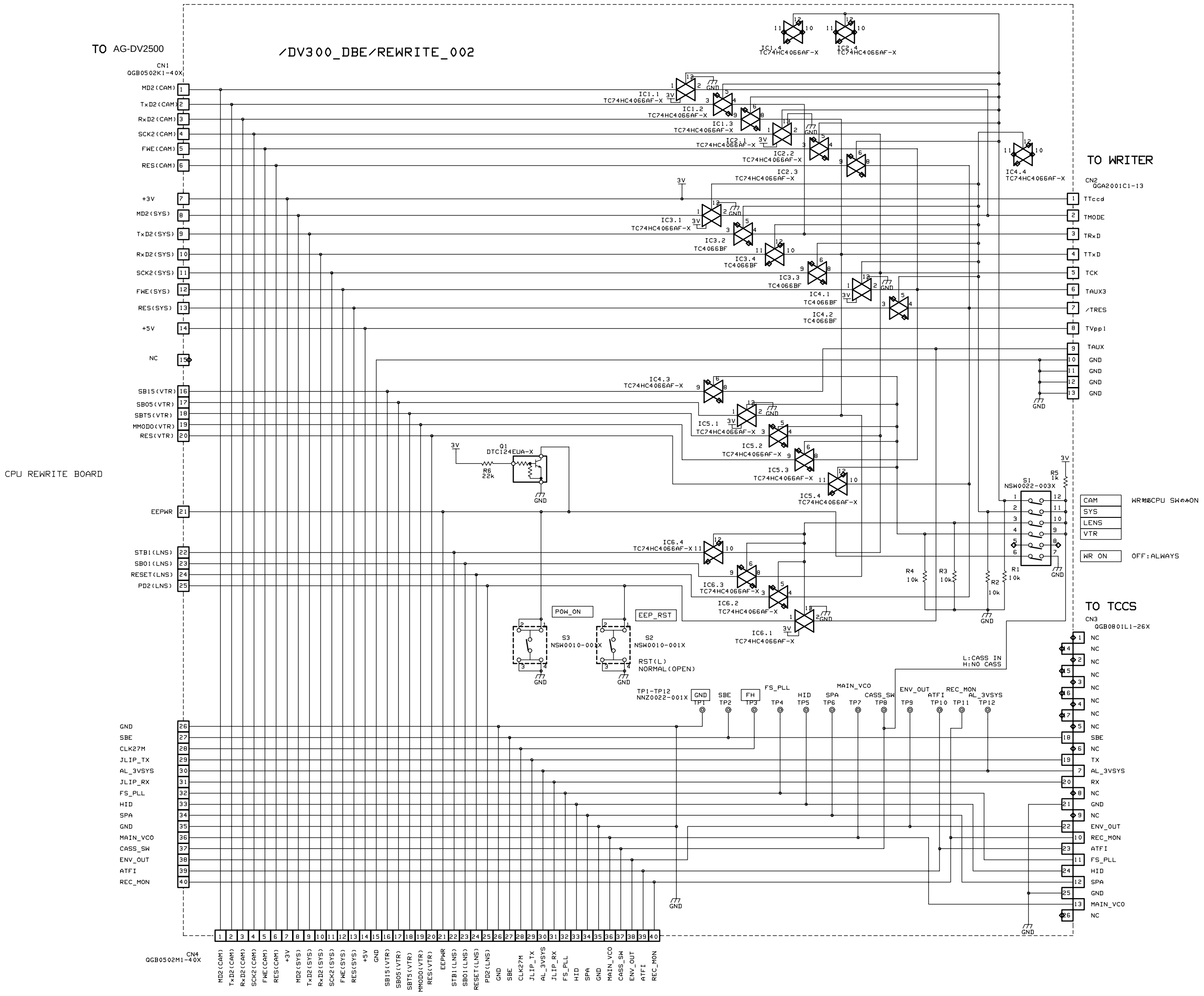
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
39	PAL LINE IN REC C level adjustment	WFM (PAL) or oscilloscope LINE IN PAL 100% color bar 	EE ADJUST MENU, 270. LE REC C LEV (PAL)	◎ C OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 885 mVp-p	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 270, "LE REC C LEV (PAL)". (3)Adjust so that the RED color levels are as specified. (4)Press the [SET] button to store the adjustment data.
40	PAL Y/C IN EE Y level adjustment	WFM (PAL) or oscilloscope Y/C IN PAL 100% color bar 	EE ADJUST MENU, 271. YC EE Y LEV (PAL)	◎ Y OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 700 mVp-p	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 271, "YC EE Y LEV (PAL)". (3)Adjust so that the level from the pedestal to 100% WHITE is as specified. (4)Press the [SET] button to store the adjustment data.
41	PAL Y/C IN EE C level adjustment	WFM (PAL) or oscilloscope Y/C IN PAL 100% color bar 	EE ADJUST MENU, 272. YC EE C LEV (PAL)	◎ C OUT (Y/C jack) (75Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 300 mVp-p	(1)Set the INPUT SELECT SW to LINE or Y/C. (2)Select ADJUST MENU No. 272, "YC EE C LEV (PAL)". (3)Adjust so that the burst levels are as specified. (4)Press the [SET] button to store the adjustment data.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
42	PAL LINE IN EE Y level adjustment 	WFM (PAL) or oscilloscope LINE IN PAL 100% color bar	EE ADJUST MENU, 273. LE EE Y LEV (PAL)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 700 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 273, "LE EE Y LEV (PAL)". (3) Adjust so that the level from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
43	PAL LINE IN EE C level adjustment 	WFM (PAL) or oscilloscope LINE IN PAL 100% color bar	EE ADJUST MENU, 274. LE EE C LEV (PAL)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 300 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 274, "LE EE C LEV (PAL)". (3) Adjust so that the burst levels are as specified. (4) Press the [SET] button to store the adjustment data.

(3) On-screen display adjustment

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
44	On-screen display position adjustment  Adjust so that the boundary between the Red and Blue color bars comes in the space between "4" and "3".	Monitor TV Color bar (built-in signal)	EE ADJUST MENU, 200 OSD ADJ	◎ LINE OUT or Y/C OUT (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ Between “3” and “4” ± 1/5 character	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 200, "OSD ADJ". (3) Adjust so that the boundary between the Red and Blue color bars comes in the space between "4" on the second position from the right of the array of figures on the bottom of the screen and "3" on the third position. (4) Press the [SET] button to store the adjustment data.

3.4 REWRITE BOARD SCHEMATIC DIAGRAM

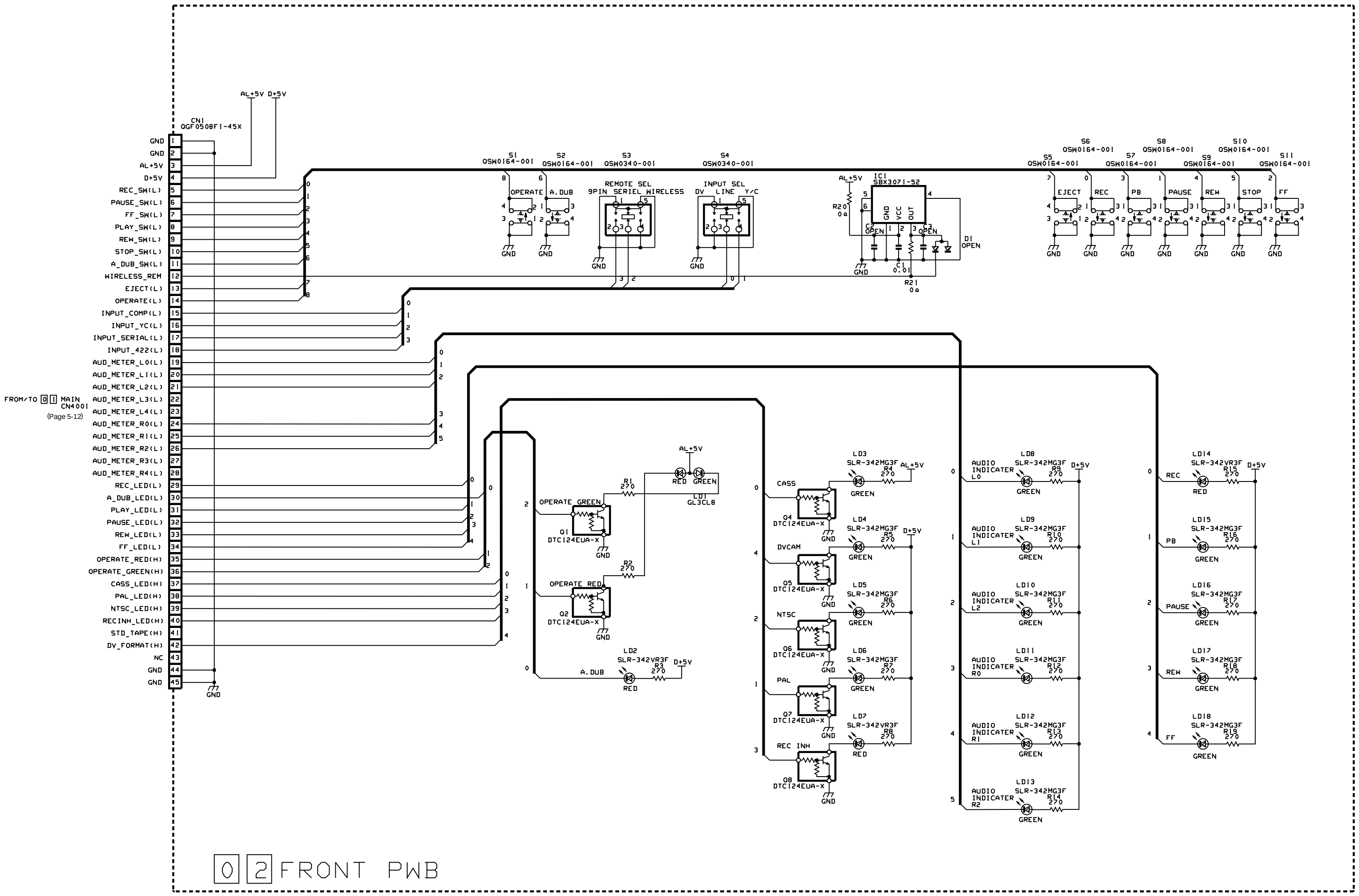


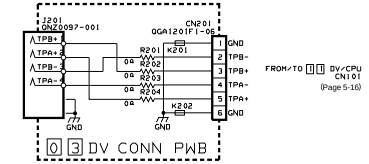
TO AG-DV2500
/DV300_DBE/REWRITE_002
CPU REWRITE BOARD
CN1
QGB0502K1-40X
MD2(CAM)
TxD2(CAM)
RxD2(CAM)
SCK2(CAM)
FWE(CAM)
RES(CAM)
+3V
MD2(SYS)
TxD2(SYS)
RxD2(SYS)
SCK2(SYS)
FWE(SYS)
RES(SYS)
+5V
NC
SB15(VTR)
SB05(VTR)
SBT5(VTR)
MMOD0(VTR)
RES(VTR)
EEPWR
STB1(LNS)
SB01(LNS)
RESET(LNS)
PD2(LNS)
GND
SBE
CLK27M
JLIP_TX
AL_3VSYS
JLIP_RX
FS_PLL
HID
SPA
GND
MAIN_VCO
CASS_SW
ENV_OUT
ATFI
REC_MON
IC1.1 TC74HC4066AF-X
IC1.2 TC74HC4066AF-X
IC1.3 TC74HC4066AF-X
IC1.4 TC74HC4066AF-X
IC2.1 TC74HC4066AF-X
IC2.2 TC74HC4066AF-X
IC2.3 TC74HC4066AF-X
IC2.4 TC74HC4066AF-X
IC3.1 TC74HC4066AF-X
IC3.2 TC4066BF
IC3.3 TC4066BF
IC3.4 TC4066BF
IC4.1 TC4066BF
IC4.2 TC4066BF
IC4.3 TC74HC4066AF-X
IC4.4 TC74HC4066AF-X
IC5.1 TC74HC4066AF-X
IC5.2 TC74HC4066AF-X
IC5.3 TC74HC4066AF-X
IC5.4 TC74HC4066AF-X
IC6.1 TC74HC4066AF-X
IC6.2 TC74HC4066AF-X
IC6.3 TC74HC4066AF-X
IC6.4 TC74HC4066AF-X
3V
GND
Q1 DTC124EUA-X
R6 22k
POW_ON
EEP_RST
S3 NSW0010-001X
S2 NSW0010-001X
RST(L)
NORMAL(OPEN)
TO WRITER
CN2 QGA2001C1-13
TTccd
TMODE
TRxD
TTxD
TCK
TAUX3
/TRES
TVpp1
TAUX
GND
S1 NSW0022-003X
R5 1k
R1 10k
R2 10k
R3 10k
R4 10k
CAM
SYS
LENS
VTR
WR対応CPU SWのみON
WR ON
OFF:ALWAYS
TO TCCS
CN3 QGB0801L1-26X
L:CASS IN
H:NO CASS
TP1-TP12
NNZ0022-001X
GND TP1
SBE TP2
FH TP3
FS_PLL TP4
HID TP5
SPA TP6
MAIN_VCO TP7
CASS_SW TP8
ENV_OUT TP9
ATFI TP10
REC_MON TP11
AL_3VSYS TP12
NC
SBE
TX
AL_3VSYS
RX
GND
ENV_OUT
REC_MON
ATFI
FS_PLL
HID
SPA
MAIN_VCO
CN4
QGB0502M1-40X

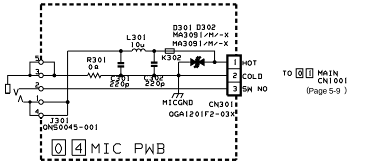
	S1		S2	S3
Pin No.	Initial	Parameter	Not used	Not used
1	OFF	ON : Enable to rewrite VTR (MSD)		
2	OFF	ON : Enable to rewrite SYS CPU		
3	OFF	Not used		
4	OFF	ON : Enable to rewrite VTR (MSD) CPU ((Note)		
5	OFF	Not used		
6	OFF	Not used		

(Note : When rewriting the VTR (MSD) firmware, both of switch S1 - 1 and 4 should be set to “ON”.

5.13 FDM (FRONT, DV CONN & MIC) SCHEMATIC DIAGRAMS


FROM/TO 0 1 MAIN CN4001
(Page 5-12)
CN1
QGF0508F1-45X
AL+5V
D+5V
GND 1
GND 2
AL+5V 3
D+5V 4
REC_SW(L) 5
PAUSE_SW(L) 6
FF_SW(L) 7
PLAY_SW(L) 8
REW_SW(L) 9
STOP_SW(L) 10
A_DUB_SW(L) 11
WIRELESS_REM 12
EJECT(L) 13
OPERATE(L) 14
INPUT_COMP(L) 15
INPUT_YC(L) 16
INPUT_SERIAL(L) 17
INPUT_422(L) 18
AUD_METER_L0(L) 19
AUD_METER_L1(L) 20
AUD_METER_L2(L) 21
AUD_METER_L3(L) 22
AUD_METER_L4(L) 23
AUD_METER_R0(L) 24
AUD_METER_R1(L) 25
AUD_METER_R2(L) 26
AUD_METER_R3(L) 27
AUD_METER_R4(L) 28
REC_LED(L) 29
A_DUB_LED(L) 30
PLAY_LED(L) 31
PAUSE_LED(L) 32
REW_LED(L) 33
FF_LED(L) 34
OPERATE_RED(H) 35
OPERATE_GREEN(H) 36
CASS_LED(H) 37
PAL_LED(H) 38
NTSC_LED(H) 39
RECINH_LED(H) 40
STD_TAPE(H) 41
DV_FORMAT(H) 42
NC 43
GND 44
GND 45
S1 OSW0164-001 OPERATE
S2 OSW0164-001 A.DUB
S3 OSW0340-001 REMOTE SEL 9PIN SERIEL WIRELESS
S4 OSW0340-001 INPUT SEL DV LINE Y/C
AL+5V
R20 0Ω
IC1 SBX3071-52
GND VCC OUT
C2 OPEN
C1 0.01
C3 OPEN
R21 0Ω
D1 OPEN
S5 OSW0164-001 EJECT
S6 OSW0164-001 REC
S7 OSW0164-001 PB
S8 OSW0164-001 PAUSE
S9 OSW0164-001 REW
S10 OSW0164-001 STOP
S11 OSW0164-001 FF
GND
AL+5V
LD1 GL3CL8 RED GREEN
R1 270
OPERATE GREEN
Q1 DTC124EUA-X
R2 270
OPERATE RED
Q2 DTC124EUA-X
LD2 SLR-342VR3F
R3 270
D+5V
A.DUB
RED
CASS
Q4 DTC124EUA-X
DVCAM
Q5 DTC124EUA-X
NTSC
Q6 DTC124EUA-X
PAL
Q7 DTC124EUA-X
REC INH
Q8 DTC124EUA-X
LD3 SLR-342MG3F R4 270 GREEN
LD4 SLR-342MG3F R5 270 GREEN
LD5 SLR-342MG3F R6 270 GREEN
LD6 SLR-342MG3F R7 270 GREEN
LD7 SLR-342VR3F R8 270 RED
AUDIO INDICATER L0 LD8 SLR-342MG3F R9 270 GREEN
AUDIO INDICATER L1 LD9 SLR-342MG3F R10 270 GREEN
AUDIO INDICATER L2 LD10 SLR-342MG3F R11 270 GREEN
AUDIO INDICATER R0 LD11 SLR-342MG3F R12 270 GREEN
AUDIO INDICATER R1 LD12 SLR-342MG3F R13 270 GREEN
AUDIO INDICATER R2 LD13 SLR-342MG3F R14 270 GREEN
REC LD14 SLR-342VR3F R15 270 RED
PB LD15 SLR-342MG3F R16 270 GREEN
PAUSE LD16 SLR-342MG3F R17 270 GREEN
REW LD17 SLR-342MG3F R18 270 GREEN
FF LD18 SLR-342MG3F R19 270 GREEN
0 2 FRONT PWB

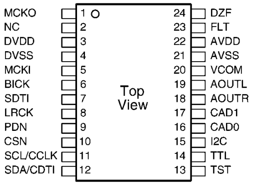

J201
QNZ0097-001
TPB+ 1
TPA+ 2
TPB- 3
TPA- 4
R201 0Ω
R202 0Ω
R203 0Ω
R204 0Ω
K201
K202
CN201
QGA1201F1-06
1 GND
2 TPB-
3 TPB+
4 TPA-
5 TPA+
6 GND
GND
FROM/TO 1 1 DV/CPU CN101
(Page 5-16)
0 3 DV CONN PWB


J301
QNS0045-001
R301 0Ω
C301 220p
C302 220p
L301 10u
K302
D301 D302
MA3091/M/-X
MA3091/M/-X
MICGND
CN301
QGA1201F2-03X
1 HOT
2 COLD
3 SW NO
TO 0 1 MAIN CN1001
(Page 5-9)
0 4 MIC PWB

5.17 IC BLOCK DIAGRAMS

■ AK4363VF-X [ASAHI KASEI]
(Stereo CMOS D/A Converter and Phase Locked Loop)

Pin Layout

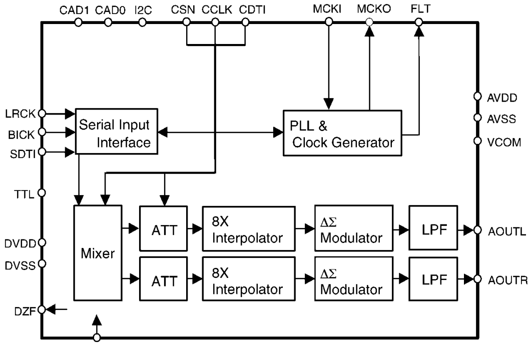

MCKO 1
NC 2
DVDD 3
DVSS 4
MCKI 5
BICK 6
SDTI 7
LRCK 8
PDN 9
CSN 10
SCL/CCLK 11
SDA/CDTI 12
Top View
24 DZF
23 FLT
22 AVDD
21 AVSS
20 VCOM
19 AOUTL
18 AOUTR
17 CAD1
16 CAD0
15 I2C
14 TTL
13 TST

Pin/Function

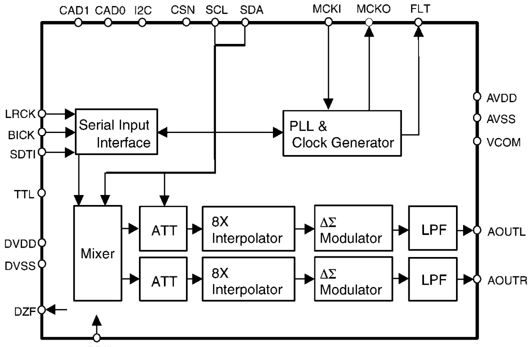
No.	Pin Name	I/O	Description
1	MCKO	O	Master Clock Output Pin EXT = "0" : System clock is output from PLL circuit (PLL mode), EXT = "1" : Same frequency as MCKI is output (External mode)
2	NC	-	No Connect Nothing should be connected externally to this pin.
3	DVDD	-	Digital Power Supply Pin, +2.7– +5.5V
4	DVSS	-	Digital Ground Pin, 0V
5	MCKI	I	System Clock Input Pin EXT = "0" : 27MHz (PLL mode), EXT = "1" : Other frequency (External mode)
6	BICK	I	Serial Data Clock Pin
7	SDTI	I	Serial Data Input Pin
8	LRCK	I	Serial Input Channel Clock Pin
9	PDN	I	Power-Down Pin When "L", the circuit is in power-down mode. The AK4363 should always be reset upon power-up.
10	CSN	I	Chip Select Pin at 3-wire Serial control mode This pin should be connected to DVDD at I^2C Bus control mode.
11	SCL	I	Control Clock Pin at I^2C bus control mode
	CCLK	I	Control Clock Pin at 3-wire serial control mode
12	SDA	I/O	Control Data Input/Output Pin at I^2C Bus control mode
	CDTI	I	Control Data Input Pin at 3-wire serial control mode
13	TST	I	Test pin This pin should be connected to DVSS.
14	TTL	I	Digital Input Level Select Pin "L" : CMOS, "H" : TTL
15	I2C	I	Control Mode Select Pin "L" : 3-wire Serial, "H" : I^2C Bus
16	CAD0	I	Chip Address Select 0 Pin
17	CAD1	I	Chip Address Select 1 Pin
18	AOUTR	O	Rch Analog Output Pin
19	AOUTL	O	Lch Analog Output Pin
20	VCOM	O	Common Voltage Output Pin, AVDD/2 Used for analog common voltage. Large external capacitor is used to reduce power supply noise.
21	AVSS	-	Analog Ground Pin
22	AVDD	-	Analog Power Supply Pin
23	FLT	O	Output Pin for Loop Filter of PLL Circuit This pin should be connected to AVSS with one resister and one capacitor in series. (See"SYSTEM DESIGN".)
24	DZF	O	Zero Input Detect Pin When SDTI follows a total 8192 LRCK cycles with "0" input data or RSTN = "0", this pin goes to "H".

Note: No input pins should be left floating.

Block Diagram


CAD1
CAD0
I2C
CSN
CCLK
CDTI
MCKI
MCKO
FLT
AVDD
AVSS
VCOM
LRCK
BICK
SDTI
Serial Input Interface
PLL & Clock Generator
TTL
DVDD
DVSS
Mixer
ATT
8X Interpolator
ΔΣ Modulator
LPF
AOUTL
AOUTR
DZF
PDN

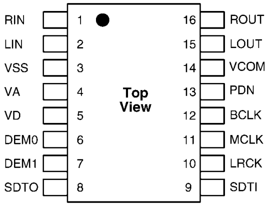
3-wire Serial Control Mode (I2C = "L")


CAD1
CAD0
I2C
CSN
SCL
SDA
MCKI
MCKO
FLT
AVDD
AVSS
VCOM
LRCK
BICK
SDTI
Serial Input Interface
PLL & Clock Generator
TTL
DVDD
DVSS
Mixer
ATT
8X Interpolator
ΔΣ Modulator
LPF
AOUTL
AOUTR
DZF
PDN

I^2C Bus Control Mode (I2C = "H")

■ AK4552VT-X [ASAHI KASEI]
(Degital Audio A/D & D/A Converter)

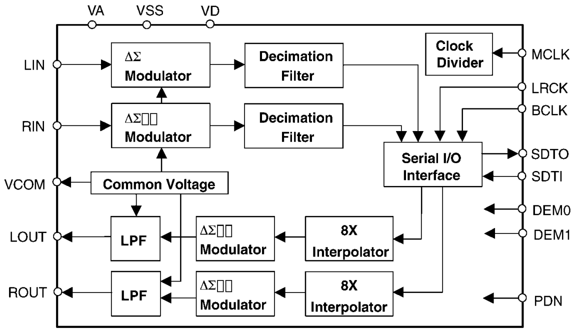
Pin Layout


RIN 1
LIN 2
VSS 3
VA 4
VD 5
DEM0 6
DEM1 7
SDTO 8
Top View
16 ROUT
15 LOUT
14 VCOM
13 PDN
12 BCLK
11 MCLK
10 LRCK
9 SDTI

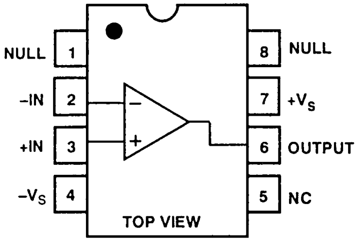
Pin/Function

No.	Pin Name	I/O	Function
1	RIN	I	Rch Analog Input Pin
2	LIN	I	Lch Analog Input Pin
3	VSS	-	Ground Pin
4	VA	-	Analog Power Supply Pin
5	VD	-	Digital Power Supply Pin
6	DEM0	I	De-emphasis Control Pin
7	DEM1	I	De-emphasis Control Pin
8	SDTO	O	Audio Serial Data Output Pin
9	SDTI	I	Audio Serial Data Input Pin
10	LRCK	I	Input/Output Channel Clock Pin
11	MCLK	I	Master Clock Input Pin
12	BCLK	I	Audio Serial Data Clock Pin
13	PDN	I	Power-Down & Reset Mode Pin "L": Power-down and Reset, "H": Normal operation
14	VCOM	O	Common Voltage Output Pin, 0.45 x VA
15	LOUT	O	Lch Analog Output Pin
16	ROUT	O	Rch Analog Output Pin

Block Diagram

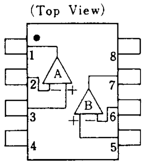

VA
VSS
VD
LIN
RIN
VCOM
LOUT
ROUT
ΔΣ Modulator
Decimation Filter
Clock Divider
Common Voltage
Serial I/O Interface
LPF
ΔΣ Modulator
8X Interpolator
MCLK
LRCK
BCLK
SDTO
SDTI
DEM0
DEM1
PDN

■ AD817AR-X [ANALOG DEVICES]
(Hi-Speed Low Power Op.Amp)


NULL 1
–IN 2
+IN 3
–VS 4
8 NULL
7 +VS
6 OUTPUT
5 NC
TOP VIEW

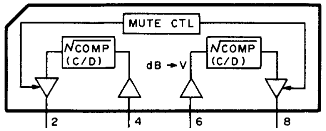
NC = NOT CONNECTED

■ BA10393F-XE [ROHM]
(Dual Comparator)

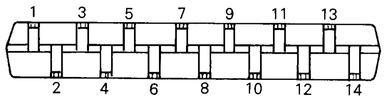

(Top View)
1
2
3
4
5
6
7
8
A
B

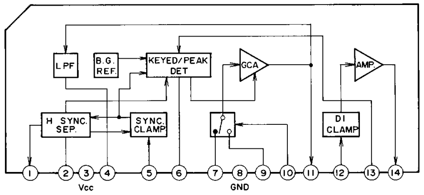
Pin
1. A OUTPUT
2. A–INPUT
3. A+INPUT
4. V^-
5. B+INPUT
6. B–INPUT
7. B OUTPUT
8. V^+

■ BA6138F-X [ROHM]
(1/2 square-law compression amplifiers)

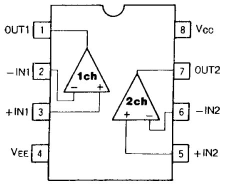

MUTE CTL
√COMP (C/D)
dB→V
√COMP (C/D)
2
4
6
8

■ AN3916-/LF/ [MATSUSHITA]
(Video AGC)

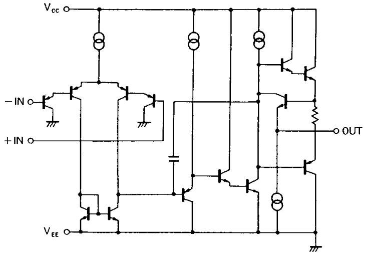

1
3
5
7
9
11
13
2
4
6
8
10
12
14


LPF
B.G. REF.
KEYED/PEAK DET
GCA
AMP
H SYNC. SEP.
SYNC. CLAMP
DI CLAMP
1
2
3
4
5
6
7
8
9
10
11
12
13
14
Vcc
GND

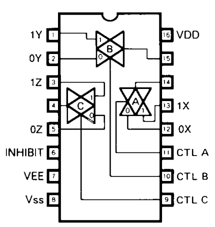
■ BA10358F-XE [ROHM]
(Dual Ground Sense Op.Amp)


OUT1
–IN1
+IN1
VEE
Vcc
OUT2
–IN2
+IN2
1ch
2ch
1
2
3
4
5
6
7
8

(Top View)


Vcc
–IN
+IN
OUT
VEE

■ CD4053BPW-X [RCA]
(Triple 2 Channel Analog Multiplexers/Demultiplexers)


1Y
0Y
1Z
0Z
INHIBIT
VEE
Vss
VDD
1X
0X
CTL A
CTL B
CTL C
A
B
C
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

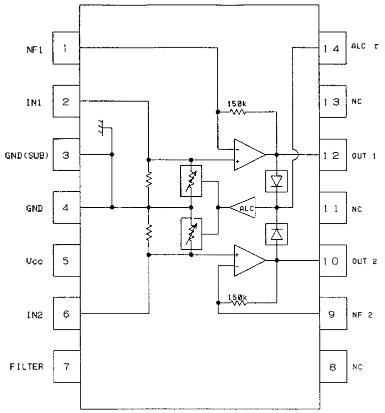
(TOP VIEW)

TRUTH TABLE

CONTROL INPUTS				"ON" CHANNEL
INHIBIT	C	B	A	4053BP 4053BF
L	L	L	L	0X, 0Y, 0Z
L	L	L	H	1X, 0Y,0Z
L	L	H	L	0X, 1Y, 0Z
L	L	H	H	1X, 1Y, 0Z
L	H	L	L	0X, 0Y, 1Z
L	H	L	H	1X, 0Y, 1Z
L	H	H	L	0X, 1Y, 1Z
L	H	H	H	1X, 1Y, 1Z
H	*	*	*	NOTE

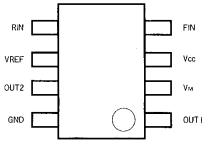
* Don't Care,

■ BA3314F-X [ROHM]
(Dual Pre-Amp. for Audio Signal)

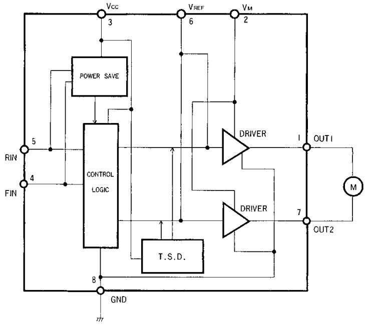

NF1
IN1
GND(SUB)
GND
Vcc
IN2
FILTER
1
2
3
4
5
6
7
14
13
12
11
10
9
8
ALC T
NC
OUT 1
NC
OUT 2
NF 2
NC
150k
150k
ALC

(Top View)

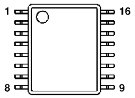
■ BA6417F-X [ROHM]
(Reversible Motor Driver)


RIN
VREF
OUT2
GND
FIN
Vcc
VM
OUT1

Top view

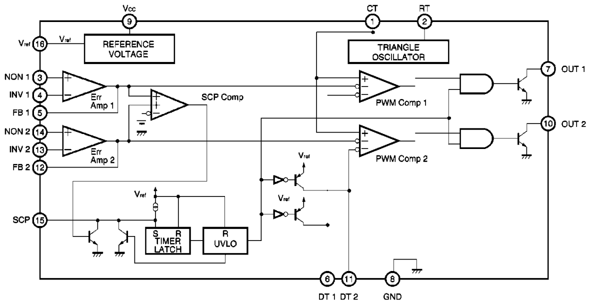

Vcc
3
VREF
6
VM
2
POWER SAVE
CONTROL LOGIC
DRIVER
DRIVER
T.S.D.
5
RIN
4
FIN
1
OUT1
7
OUT2
M
8
GND

■ BA9743AFV-X [ROHM]
(2-channel Switching Regulator Controller)

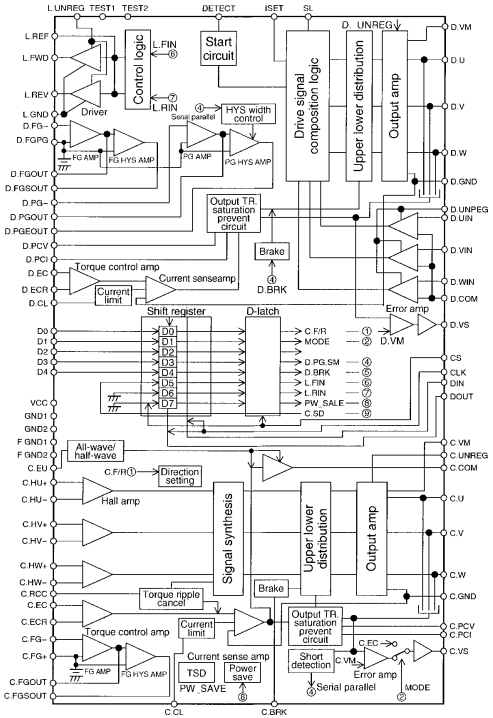


(Top View)

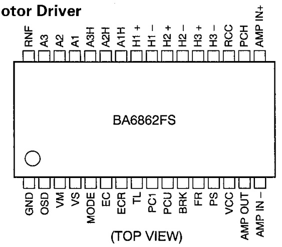
Block Diagram

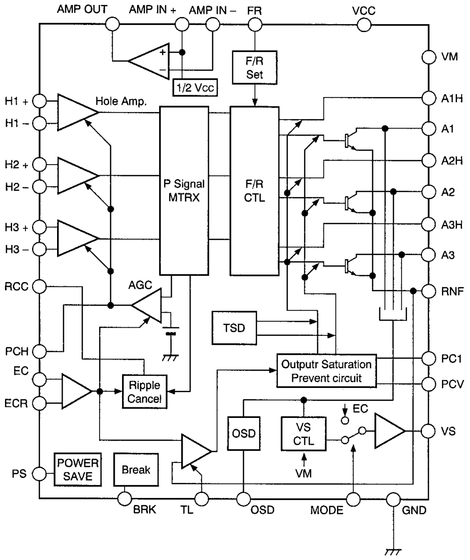

Vcc
9
CT
1
RT
2
Vref
16
Vref
REFERENCE VOLTAGE
TRIANGLE OSCILLATOR
NON 1
3
INV 1
4
FB 1
5
NON 2
14
INV 2
13
FB 2
12
Err Amp 1
Err Amp 2
SCP Comp
PWM Comp 1
PWM Comp 2
7
OUT 1
10
OUT 2
Vref
Vref
Vref
SCP
15
S
R
TIMER LATCH
R
UVLO
6
11
8
DT 1
DT 2
GND

■ BA6865KV [ROHM]
(Motor Driver Controller)


L.UNREG
TEST1
TEST2
DETECT
ISET
SL
D. UNREG
L.REF
L.FWD
L.REV
L.GND
Driver
Control logic
L.FIN ⑥
L.RIN ⑦
Start circuit
④
HYS width control
Serial parallel
Drive signal composition logic
Upper lower distribution
Output amp
D.VM
D.U
D.V
D.W
D.GND
D.FG–
D.FGPG
FG AMP
FG HYS AMP
PG AMP
PG HYS AMP
D.FGOUT
D.FGSOUT
D.PG–
D.PGOUT
D.PGEOUT
Output TR. saturation prevent circuit
D.UNPEG
D.UIN
D.VIN
D.WIN
D.COM
D.PCV
D.PCI
Brake
④ D.BRK
D.EC
D.ECR
D.CL
Torque control amp
Current senseamp
Current limit
Error amp
D.VS
Shift register
D-latch
D0
D1
D2
D3
D4
D5
D6
D7
C.F/R ①
MODE ②
D.PG.SM ④
D.BRK ⑤
L.FIN ⑥
L.RIN ⑦
PW_SALE ⑧
C.SD ⑨
D.VM
CS
CLK
DIN
DOUT
VCC
GND1
GND2
F GND1
F GND2
C.EU
All-wave/ half-wave
C.F/R①
Direction setting
C.VM
C.UNREG
C.COM
C.HU+
C.HU–
Hall amp
C.HV+
C.HV–
C.HW+
C.HW–
Signal synthesis
Upper lower distribution
Output amp
C.U
C.V
C.W
C.GND
C.RCC
Torque ripple cancel
Brake
C.EC
C.ECR
Torque control amp
Current limit
Output TR. saturation prevent circuit
C.PCV
C.PCI
C.EC
C.VS
C.FG–
C.FG+
FG AMP
FG HYS AMP
Current sense amp
TSD
Power save
PW_SAVE
⑧
Short detection
C.VM
Error amp
④ Serial parallel
MODE
②
C.FGOUT
C.FGSOUT
C.CL
C.BRK

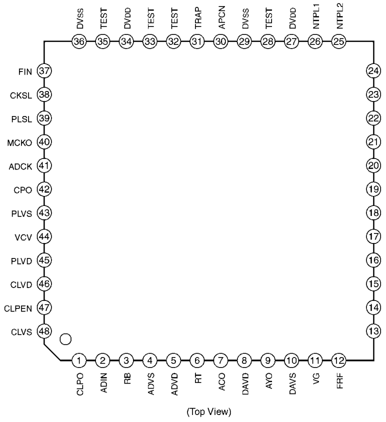
■ BA6862FS-X [ROHM]
(Motor Driver

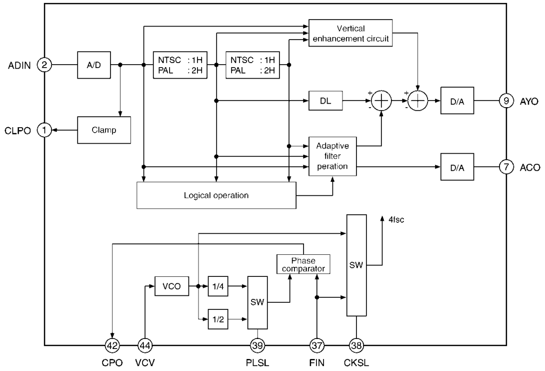

RNF
A3
A2
A1
A3H
A2H
A1H
H1 +
H1 –
H2 +
H2 –
H3 +
H3 –
RCC
PCH
AMP IN+
BA6862FS
GND
OSD
VM
VS
MODE
EC
ECR
TL
PC1
PCU
BRK
FR
PS
VCC
AMP OUT
AMP IN –
(TOP VIEW)


AMP OUT
AMP IN +
AMP IN –
FR
VCC
1/2 Vcc
F/R Set
VM
H1 +
H1 –
Hole Amp.
A1H
A1
H2 +
H2 –
A2H
P Signal MTRX
F/R CTL
A2
H3 +
H3 –
A3H
A3
RCC
AGC
RNF
PCH
TSD
EC
ECR
Ripple Cancel
Outputr Saturation Prevent circuit
PC1
PCV
EC
OSD
VS CTL
VS
VM
PS
POWER SAVE
Break
BRK
TL
OSD
MODE
GND

Pin No.	Symbol	Function
1	GND	GND
2	OSD	Output detect for short circuit
3	VM	Power source for motor drive
4	VS	Control for motor drive
5	MODE	Current/Voltage switching
6	EC	Torque control
7	ECR	Torque reference
8	TL	Torque limited
9	PCI	Output saturation prevent level (low level)
10	PCV	Output saturation prevent level (high level)
11	BRK	Break input H : Break L : Movement
12	FR	Foward/Reverse CTL input
13	PS	Power save H : Stand-by L : Movement
14	VCC	
15	AMP OUT	Amplifire output
16	AMP IN –	Amplifire input (–)
17	AMP IN +	Amplifire input (+)
18	PCH	Hole amp, AGC phase compareter
19	RCC	Ripple cancel
20	H3 –	Hole signal input
21	H3 +	Hole signal input
22	H2 –	Hole signal input
23	H2 +	Hole signal input
24	H1 –	Hole signal input
25	H1 +	Hole signal input
26	A1H	Pre motor drive output
27	A2H	Pre motor drive output
28	A3H	Pre motor drive output
29	A1	Motor drive output
30	A2	Motor drive output
31	A3	Motor drive output
32	RNF	GND for motor drive

■ CXD2064Q [SONY]
(DIGITAL COM FILTER (NTSC/PAL))


DVSS 36
TEST 35
DVDD 34
TEST 33
TEST 32
TRAP 31
APCN 30
DVSS 29
TEST 28
DVDD 27
NTPL1 26
NTPL2 25
FIN 37
CKSL 38
PLSL 39
MCKO 40
ADCK 41
CPO 42
PLVS 43
VCV 44
PLVD 45
CLVD 46
CLPEN 47
CLVS 48
24 DTR
23 PNR
22 VEH1
21 VEH2
20 VEH3
19 MOD1
18 DVSS
17 MOD2
16 DVDD
15 TEST
14 VB
13 IRF
1 CLPO
2 ADIN
3 RB
4 ADVS
5 ADVD
6 RT
7 ACO
8 DAVD
9 AYO
10 DAVS
11 VG
12 FRF
(Top View)

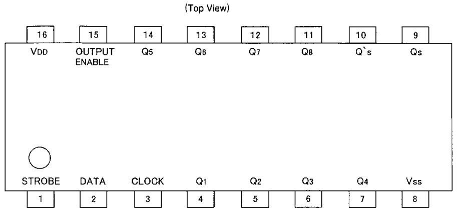

ADIN 2
CLPO 1
A/D
Clamp
NTSC : 1H PAL : 2H
NTSC : 1H PAL : 2H
Vertical enhancement circuit
DL
D/A
9 AYO
Adaptive filter peration
D/A
7 ACO
Logical operation
4fsc
SW
Phase comparator
VCO
1/4
1/2
SW
42 CPO
44 VCV
39 PLSL
37 FIN
38 CKSL

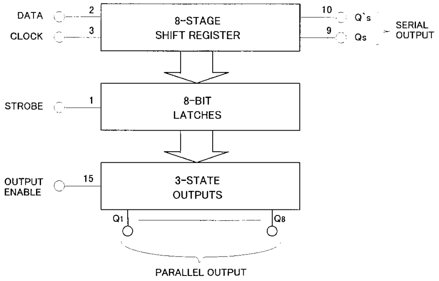
Pin Description

Pin No.	Symbol	I/O	Description
1	CLPO	O	Internal clamp circuit current output. Connect to ADIN when using the internal clamp. Leave this pin open when not in use.
2	ADIN	I	Comb filter analog input (A/D converter input).
3	RB	O	Reference bottom voltage for the A/D converter (0.52V typ.).
4	ADVS	—	A/D converter analog ground.
5	ADVD	—	A/D converter analog power supply. (5.0V)
6	RT	O	Reference top voltage for the A/D converter (2.60V typ.).
7	ACO	O	Analog chroma signal output. Output can be obtained by connecting a resistor between this pin and the analog ground.
8	DAVD	—	D/A converter analog power supply. (5.0V)
9	AYO	O	Analog luminance signal output. Output can be obtained by connecting a resistor between this pin and the analog ground.
10	DAVS	—	D/A converter analog ground.
11	VG	O	D/A converter related pin. Connect a capacitor of approximately 0.1μF between this pin and the analog power supply (DAVD).
12	VRF	I	Sets the full-scale value of the Y and C-channel D/A converter output signal.
13	IRF	O	Connect a resistor of “16R” (16 times the output resistor “R” of the D/A converter).
14	VB	O	D/A converter related pin. Connect to the analog ground (DAVS) via a capacitor of approximately 0.1μF.
15	TEST	I	Test pin. Normally fix to “Low”.
16	DVDD	—	Digital power supply. (5.0V)
18	DVSS	—	Digital ground.
17	MOD2	I	Y/C separation mode setting. MOD2 MOD1 L L Adaptive processing mode H L BPF separation mode H H Through mode
19	MOD1	I	
20	VEH3	I	Vertical enhancement setting. Can be set in 8 stages from VEH3 VEH2 VEH1: LLL (off) to HHH (max.)
21	VEH2	I	
22	VEH1	I	
23	PNR	I	L: NTSC/H: PAL, M-PAL, N-PAL
24	DTR	I	Normally fix to “Low”.
25	NTPL2	I	NTSC/PAL/M-PAL/N-PAL mode setting. NTPL2 NTPL1 L L NTSC L H PAL H L M-PAL H H N-PAL
26	NTPL1	I	
27	DVDD	—	Digital power supply. (5.0V)

Pin No.	Symbol	I/O	Description
28	TEST	I	Test pin. Normally fix to “Low”.
29	DVSS	—	Digital ground.
30	APCN	I	Horizontal aperture correction circuit setting. Low: Off, High: On.
31	TRAP	I	Trap filter setting. Low: Off, High: On.
32	TEST	I	Test pin. Normally open or fix to “Low”.
33	TEST	I	Test pin. Normally open or fix to “Low”.
34	DVDD	—	Digital power supply. (5.0V)
35	TEST	I	Test pin. Normally open or fix to “Low”.
36	DVSS	—	Digital ground.
37	FIN	I	Clock input. Input the burst-locked fsc (2fsc) when using the internal PLL. Input the burst-locked 4fsc when not using the internal PLL.
38	CKSL	I	PLL control. Low: The internal PLL is not used. The clock (4fsc) which is input to FIN is supplied internally. High: The internal PLL is used. VCO oscillation output 4fsc clock is supplied internally.
39	PLSL	I	Selects the clock input to FIN. Low: fsc, High: 2fsc. When inputting 4fsc to FIN (when not using the internal PLL), this pin may be set to either “Low” or “High”.
40	MCKO	O	Clock (4fsc) output.
41	ADCK	I	Clock input for A/D converter. Normally connect to MCKO.
42	CPO	O	PLL phase comparator output. Leave open when not using the PLL.
43	PLVS	—	PLL analog ground.
44	VCV	I	VCO control voltage input. Connect to PLVS when not using the PLL.
45	PLVD	—	PLL analog power supply. (5.0V)
46	CLVD	—	Clamp D/A converter analog power supply. (5.0V)
47	CLPEN	I	Clamp circuit enable pin. Low: Clamp on, High: Clamp off.
48	CLVS	—	Clamp D/A converter analog ground.

■ BU4094BCFV-X [ROHM]
(8-Stage Shift/Store Register)

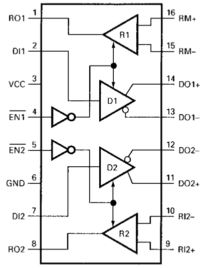

(Top View)
16 VDD
15 OUTPUT ENABLE
14 Q5
13 Q6
12 Q7
11 Q8
10 Q's
9 Qs
1 STROBE
2 DATA
3 CLOCK
4 Q1
5 Q2
6 Q3
7 Q4
8 Vss


DATA
CLOCK
8-STAGE SHIFT REGISTER
Q's
Qs
SERIAL OUTPUT
STROBE
8-BIT LATCHES
OUTPUT ENABLE
3-STATE OUTPUTS
Q1
Q8
PARALLEL OUTPUT

■ DS8922M-X [NATIONAL SEMICONDUCTOR]
(RS-422 Dual Differential Line Driver and Receiver Pairs)

Connection Diagrams

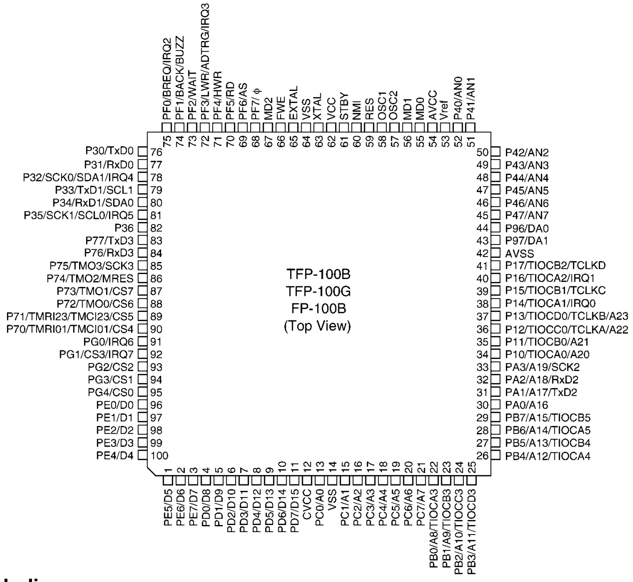
DS8922A Dual-In-Line


RO1 1
DI1 2
VCC 3
EN1 4
EN2 5
GND 6
DI2 7
RO2 8
16 RI1+
15 RI1−
14 DO1+
13 DO1−
12 DO2−
11 DO2+
10 RI2−
9 RI2+
R1
D1
D2
R2

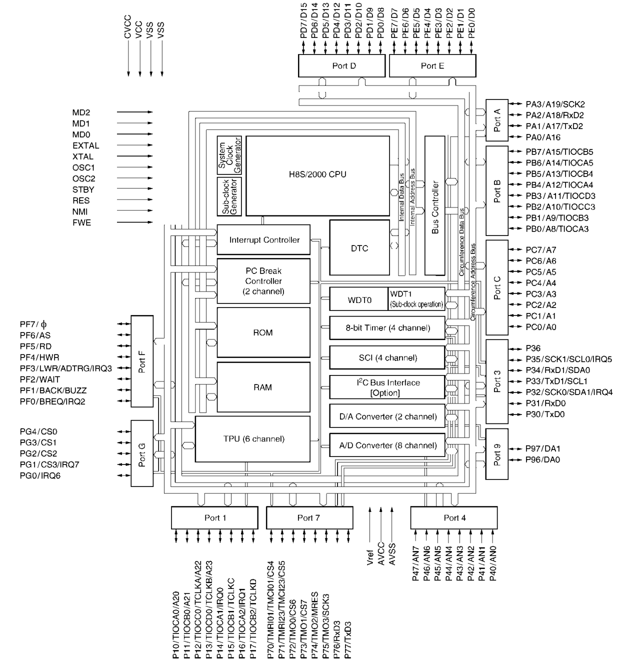
Top View

$\overline{\text{EN1}}$	$\overline{\text{EN2}}$	RO1	RO2	DO1	DO2
0	0	ACTIVE	ACTIVE	ACTIVE	ACTIVE
1	0	HI-Z	ACTIVE	HI-Z	ACTIVE
0	1	ACTIVE	HI-Z	ACTIVE	HI-Z
1	1	HI-Z	HI-Z	HI-Z	HI-Z

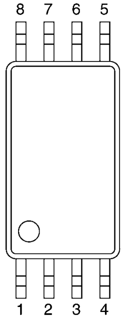
■ HD64F2238RFA13 [HITACHI]
(16-Bit Single Chip Micro Computer)


TFP-100B
TFP-100G
FP-100B
(Top View)
PF0/BREQ/IRQ2 75
PF1/BACK/BUZZ 74
PF2/WAIT 73
PF3/LWR/ADTRG/IRQ3 72
PF4/HWR 71
PF5/RD 70
PF6/AS 69
PF7/ϕ 68
MD2 67
FWE 66
EXTAL 65
VSS 64
XTAL 63
VCC 62
STBY 61
NMI 60
RES 59
OSC1 58
OSC2 57
MD1 56
MD0 55
AVCC 54
Vref 53
P40/AN0 52
P41/AN1 51
P30/TxD0 76
P31/RxD0 77
P32/SCK0/SDA1/IRQ4 78
P33/TxD1/SCL1 79
P34/RxD1/SDA0 80
P35/SCK1/SCL0/IRQ5 81
P36 82
P77/TxD3 83
P76/RxD3 84
P75/TMO3/SCK3 85
P74/TMO2/MRES 86
P73/TMO1/CS7 87
P72/TMO0/CS6 88
P71/TMRI23/TMCI23/CS5 89
P70/TMRI01/TMCI01/CS4 90
PG0/IRQ6 91
PG1/CS3/IRQ7 92
PG2/CS2 93
PG3/CS1 94
PG4/CS0 95
PE0/D0 96
PE1/D1 97
PE2/D2 98
PE3/D3 99
PE4/D4 100
50 P42/AN2
49 P43/AN3
48 P44/AN4
47 P45/AN5
46 P46/AN6
45 P47/AN7
44 P96/DA0
43 P97/DA1
42 AVSS
41 P17/TIOCB2/TCLKD
40 P16/TIOCA2/IRQ1
39 P15/TIOCB1/TCLKC
38 P14/TIOCA1/IRQ0
37 P13/TIOCD0/TCLKB/A23
36 P12/TIOCC0/TCLKA/A22
35 P11/TIOCB0/A21
34 P10/TIOCA0/A20
33 PA3/A19/SCK2
32 PA2/A18/RxD2
31 PA1/A17/TxD2
30 PA0/A16
29 PB7/A15/TIOCB5
28 PB6/A14/TIOCA5
27 PB5/A13/TIOCB4
26 PB4/A12/TIOCA4
1 PE5/D5
2 PE6/D6
3 PE7/D7
4 PD0/D8
5 PD1/D9
6 PD2/D10
7 PD3/D11
8 PD4/D12
9 PD5/D13
10 PD6/D14
11 PD7/D15
12 CVCC
13 PC0/A0
14 VSS
15 PC1/A1
16 PC2/A2
17 PC3/A3
18 PC4/A4
19 PC5/A5
20 PC6/A6
21 PC7/A7
22 PB0/A8/TIOCA3
23 PB1/A9/TIOCB3
24 PB2/A10/TIOCC3
25 PB3/A11/TIOCD3

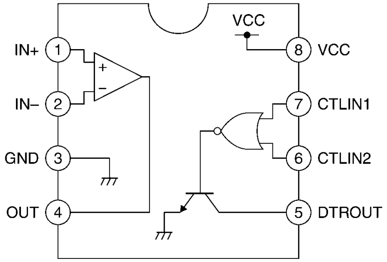
Block diagram


CVCC
VCC
VSS
VSS
PD7/D15
PD6/D14
PD5/D13
PD4/D12
PD3/D11
PD2/D10
PD1/D9
PD0/D8
PE7/D7
PE6/D6
PE5/D5
PE4/D4
PE3/D3
PE2/D2
PE1/D1
PE0/D0
Port D
Port E
MD2
MD1
MD0
EXTAL
XTAL
OSC1
OSC2
STBY
RES
NMI
FWE
System Clock Generator
Sub-clock Generator
H8S/2000 CPU
Internal Data Bus
Internal Address Bus
Bus Controller
Interrupt Controller
DTC
PC Break Controller (2 channel)
WDT0
WDT1 (Sub-clock operation)
Peripheral Data Bus
Peripheral Address Bus
ROM
8-bit Timer (4 channel)
SCI (4 channel)
RAM
I²C Bus Interface [Option]
D/A Converter (2 channel)
TPU (6 channel)
A/D Converter (8 channel)
Port A
PA3/A19/SCK2
PA2/A18/RxD2
PA1/A17/TxD2
PA0/A16
Port B
PB7/A15/TIOCB5
PB6/A14/TIOCA5
PB5/A13/TIOCB4
PB4/A12/TIOCA4
PB3/A11/TIOCD3
PB2/A10/TIOCC3
PB1/A9/TIOCB3
PB0/A8/TIOCA3
Port C
PC7/A7
PC6/A6
PC5/A5
PC4/A4
PC3/A3
PC2/A2
PC1/A1
PC0/A0
Port 3
P36
P35/SCK1/SCL0/IRQ5
P34/RxD1/SDA0
P33/TxD1/SCL1
P32/SCK0/SDA1/IRQ4
P31/RxD0
P30/TxD0
Port 9
P97/DA1
P96/DA0
Port F
PF7/ϕ
PF6/AS
PF5/RD
PF4/HWR
PF3/LWR/ADTRG/IRQ3
PF2/WAIT
PF1/BACK/BUZZ
PF0/BREQ/IRQ2
Port G
PG4/CS0
PG3/CS1
PG2/CS2
PG1/CS3/IRQ7
PG0/IRQ6
Port 1
Port 7
Port 4
P10/TIOCA0/A20
P11/TIOCB0/A21
P12/TIOCC0/TCLKA/A22
P13/TIOCD0/TCLKB/A23
P14/TIOCA1/IRQ0
P15/TIOCB1/TCLKC
P16/TIOCA2/IRQ1
P17/TIOCB2/TCLKD
P70/TMRI01/TMCI01/CS4
P71/TMRI23/TMCI23/CS5
P72/TMO0/CS6
P73/TMO1/CS7
P74/TMO2/MRES
P75/TMO3/SCK3
P76/RxD3
P77/TxD3
Vref
AVCC
AVSS
P47/AN7
P46/AN6
P45/AN5
P44/AN4
P43/AN3
P42/AN2
P41/AN1
P40/AN0

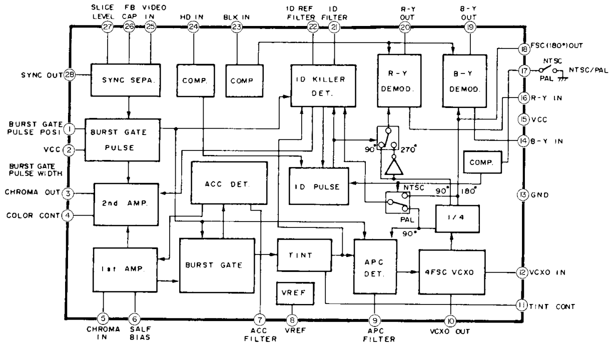
■ JCY0136-X [ROHM]
(High frequency operational amplifier for DVC)



Block diagram

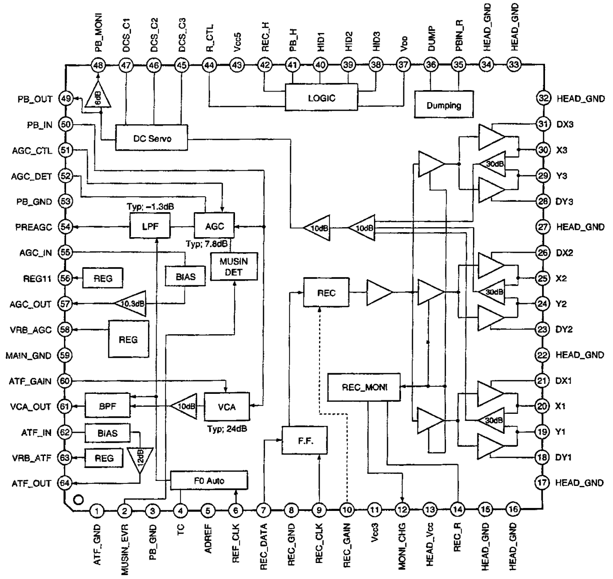

VCC
IN+ 1
IN− 2
GND 3
OUT 4
8 VCC
7 CTLIN1
6 CTLIN2
5 DTROUT
+
−

■ M51271FP-X [MITSUBISHI]
(Component Decoder)


SLICE LEVEL 27
FB CAP 26
VIDEO IN 25
HD IN 24
BLK IN 23
ID REF FILTER 22
ID FILTER 21
R-Y OUT 20
B-Y OUT 19
FSC(180°)OUT 18
NTSC
PAL
NTSC/PAL 17
R-Y IN 16
VCC 15
B-Y IN 14
GND 13
VCXO IN 12
TINT CONT 11
SYNC OUT 28
BURST GATE PULSE POSI 1
VCC 2
BURST GATE PULSE WIDTH
CHROMA OUT 3
COLOR CONT 4
CHROMA IN 5
SALF BIAS 6
ACC FILTER 7
VREF 8
APC FILTER 9
VCXO OUT 10
SYNC SEPA.
COMP.
COMP.
ID KILLER DET.
R-Y DEMOD.
B-Y DEMOD.
BURST GATE PULSE
ACC DET
ID PULSE
90°
270°
COMP.
NTSC
90°
180°
PAL
90°
1/4
2nd AMP.
1st AMP
BURST GATE
TINT
VREF
APC DET.
4FSC VCXO

■ JCY0132 [SONY]
(REC/PLAY amplifier for digital VCR)

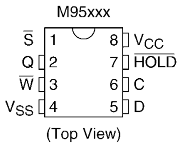
Block diagram


PB_MONI
DCS_C1
DCS_C2
DCS_C3
R_CTL
Vcc5
REC_H
PB_H
HID1
HID2
HID3
Vᴅᴅ
DUMP
PBIN_R
HEAD_GND
HEAD_GND
PB_OUT
PB_IN
AGC_CTL
AGC_DET
PB_GND
PREAGC
AGC_IN
REG11
AGC_OUT
VRB_AGC
MAIN_GND
ATF_GAIN
VCA_OUT
ATF_IN
VRB_ATF
ATF_OUT
HEAD_GND
DX3
X3
Y3
DY3
HEAD_GND
DX2
X2
Y2
DY2
HEAD_GND
DX1
X1
Y1
DY1
HEAD_GND
ATF_GND
MUSIN_EVR
PB_GND
TC
ADREF
REF_CLK
REC_DATA
REC_GND
REC_CLK
REC_GAIN
Vcc3
MONI_CHG
HEAD_Vcc
REC_R
HEAD_GND
HEAD_GND
LOGIC
Dumping
DC Servo
LPF
AGC
Typ; −1.3dB
Typ; 7.8dB
MUSIN DET
REG
BIAS
10.3dB
REG
BPF
VCA
Typ; 24dB
BIAS
REG
12dB
F0 Auto
10dB
10dB
REC
REC_MONI
F.F.
30dB
30dB
30dB
6dB

Pin description

Pin No.	Pin name	Description
1	ATF_GND	Ground terminal
2	MUSIN_EVR	EVR terminal for non-signal detection level adjustment of AGC circuit
3	PB_GND	Ground terminal
4	TC	Time constant terminal for F0 auto PLL circuit
5	ADREF	ADREF power supply terminal ADREF
6	REF_CLK	Reference clock input terminal for F0 auto PLL
7	REC_DATA	REC DATA input terminal
8	REC_GND	Ground terminal
9	REC_CLK	REC CLOCK input terminal
10	REC_GAIN	Adjusting terminal for recoding current
11	Vcc3	Vcc3 power supply terminal
12	MONI_CHG	Monitor terminal for recording current output level : REC mode, Quick charge pulse input terminal of TC terminal : PB mode
13	HEAD_Vcc	Power supply terminal of R/P amplifier section
14	REC_R	External resistor connecting terminal for recording current output level monitor
15	HEAD_GND	Ground terminal
16	HEAD_GND	Ground terminal
17	HEAD_GND	Ground terminal
18	DY1	Damping resistor connecting terminal
19	Y1	HEAD terminal
20	X1	HEAD terminal
21	DX1	Damping resistor connecting terminal
22	HEAD_GND	Ground terminal
23	DY2	Damping resistor connecting terminal
24	Y2	HEAD terminal
25	X2	HEAD terminal
26	DX2	Damping resistor connecting terminal
27	HEAD_GND	Ground terminal
28	DY3	Damping resistor connecting terminal
29	Y3	HEAD terminal
30	X3	HEAD terminal
31	DX3	Damping resistor connecting terminal
32	HEAD_GND	Ground terminal
33	HEAD_GND	Ground terminal
34	HEAD_GND	Ground terminal
35	PBIN_R	External resistor connecting terminal for playback reference current
36	DUMP	HEAD resonance control terminal at playback mode
37	VDD	VDD power supply terminal
38	HID3	Mode control terminal, channel select of playback amplifier and control of recording current measurement circuit
39	HID2	Mode control terminal, channel select of recording/playback amplifier
40	HID1	Mode control terminal, channel select of recording/playback amplifier
41	PB_H	Mode control terminal, ON/OFF of playback circuit
42	REC_H	Mode control terminal, ON/OFF of recording circuit
43	Vcc5	Vcc5 power supply terminal
44	R_CTL	Mode control terminal, ON/OFF of recording current output
45	DCS_C3	Time constant terminal for DC servo circuit
46	DCS_C2	Time constant terminal for DC servo circuit
47	DCS_C1	Time constant terminal for DC servo circuit
48	PB_MONI	PB amplifier monitor terminal
49	PB_OUT	PB amplifier output terminal
50	PB_IN	PB MAIN/ATF input terminal
51	AGC_CTL	AGC control terminal for MAIN family
52	AGC_DET	Time constant terminal for MAIN family
53	PB_GND	Ground terminal
54	PREAGC	AGC+LPF output terminal for MAIN family
55	AGC_IN	10.3dB amplifier input terminalfor MAIN family
56	REG11	Regulator 1.1V output terminal
57	AGC_OUT	Output terminal for MAIN family
58	VRB_AGC	Bottom reference voltage output terminal for A/D converter of MAIN family
59	MAIN_GND	Ground terminal
60	ATF_GAIN	VCA control terminal for ATF family
61	VCA_OUT	VCA+BPF output terminal for ATF family
62	ATF_IN	12dB amplifier input terminal for ATF family
63	VRB_ATF	Bottom reference voltage output terminal for A/D converter of ATF family
64	ATF_OUT	Output terminal for ATF family

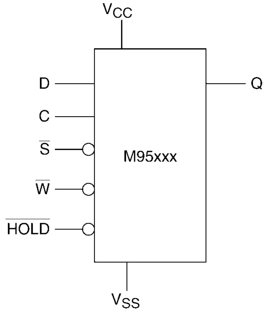
■ M95320-WMN6-X [ST MICROELECTRONICS]
(64/32 Kbit Serial SPI Bus EEPROM)


M95xxx
S̄ 1
Q 2
W̄ 3
V_{SS} 4
8 V_{CC}
7 $\overline{HOLD}$
6 C
5 D
(Top View)

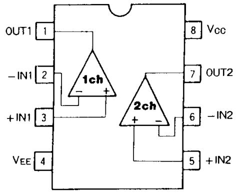
Signal Names

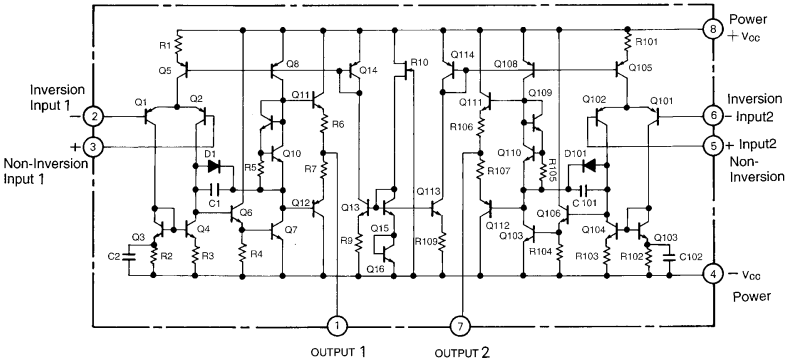
C	Serial Clock
D	Serial Data Input
Q	Serial Data Output
S̄	Chip Select
W̄	Write Protect
$\overline{HOLD}$	Hold
V_{CC}	Supply Voltage
V_{SS}	Ground

Logic Diagram

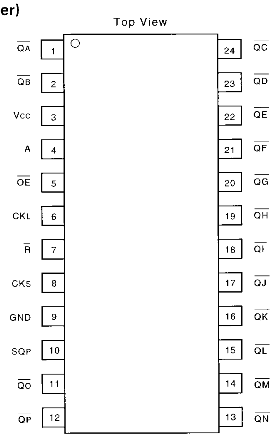

V_{CC}
D
C
S̄
W̄
$\overline{HOLD}$
M95xxx
Q
V_{SS}

■ M5218AFP-X [MITSUBISHI]
(Dual Op.Amp.)

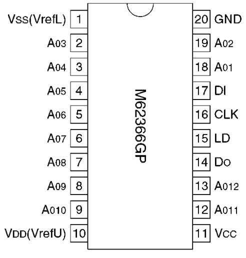

OUT1 1
−IN1 2
+IN1 3
VEE 4
8 Vcc
7 OUT2
6 −IN2
5 +IN2
1ch
2ch


Inversion Input 1
Non-Inversion Input 1
Power + Vcc
Inversion Input2
+ Input2 Non-Inversion
− Vcc Power
OUTPUT 1
OUTPUT 2
R1
Q5
Q1
Q2
D1
C1
Q3
C2
R2
R3
Q4
Q6
R4
R5
Q8
Q11
Q10
Q12
Q7
R6
R7
Q14
R10
Q13
Q15
Q16
R9
Q113
R109
Q114
Q108
Q111
R106
Q109
Q110
R107
R105
Q112
Q103
R104
Q106
D101
C101
Q102
Q101
R101
Q105
Q104
R103
R102
Q103
C102

■ M66311FP-X [MITSUBISHI]
(LED Driver)


Top View
$\overline{QA}$ 1
$\overline{QB}$ 2
Vcc 3
A 4
$\overline{OE}$ 5
CKL 6
$\overline{R}$ 7
CKS 8
GND 9
SQP 10
$\overline{QO}$ 11
$\overline{QP}$ 12
24 $\overline{QC}$
23 $\overline{QD}$
22 $\overline{QE}$
21 $\overline{QF}$
20 $\overline{QG}$
19 $\overline{QH}$
18 $\overline{QI}$
17 $\overline{QJ}$
16 $\overline{QK}$
15 $\overline{QL}$
14 $\overline{QM}$
13 $\overline{QN}$

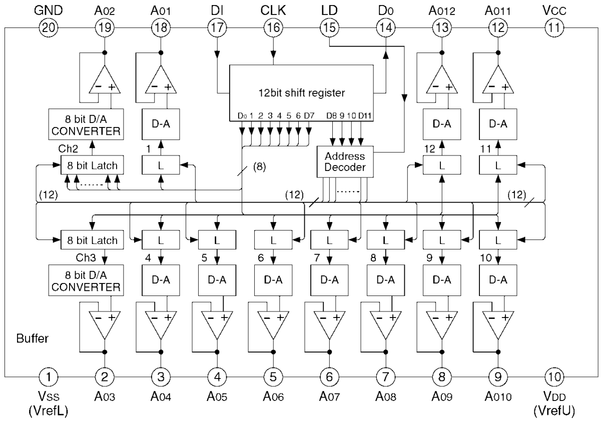
■ M62366GP-X [MITSUBISHI]
(8bit 12channel D/A converter)


Vss(VrefL) 1
Ao3 2
Ao4 3
Ao5 4
Ao6 5
Ao7 6
Ao8 7
Ao9 8
Ao10 9
VDD(VrefU) 10
20 GND
19 Ao2
18 Ao1
17 DI
16 CLK
15 LD
14 Do
13 Ao12
12 Ao11
11 Vcc
M62366GP

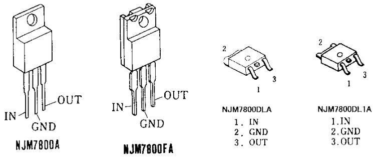
(TOP VIEW)

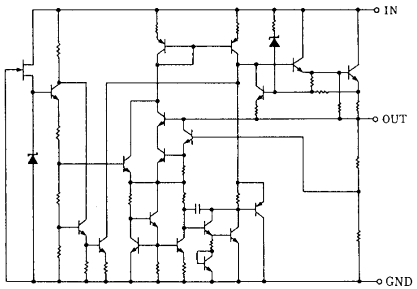
Pin No.	Symbol	Function
⑰	DI	Serial data input terminal to input 12-bit long serial data
⑭	D_O	Terminal to output MSB data of 12-bit shift register
⑯	CLK	Shift clock input terminal.Input signal at DI pin is input to 12-bit shift register at rise of shift clock pulse
⑮	LD	When H-level signal is input to this terminal,the value stored in 12-bit shift register is loaded in decoder and D-A converter output register
⑱ ⑲ ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑫ ⑬	A_{O1} A_{O2} A_{O3} A_{O4} A_{O5} A_{O6} A_{O7} A_{O8} A_{O9} A_{O10} A_{O11} A_{O12}	8-bit D-A converter output terminal
⑪	VCC	Power supply terminal
⑳	GND	GND terminal
⑩	V_{DD}	D-A converter upper reference voltage input terminal
①	V_{SS}	D-A converter lower reference voltage input terminal

Block Diagram

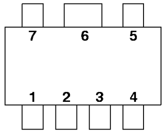

GND ⑳
Ao2 ⑲
Ao1 ⑱
DI ⑰
CLK ⑯
LD ⑮
Do ⑭
Ao12 ⑬
Ao11 ⑫
Vcc ⑪
12bit shift register
Do 1 2 3 4 5 6 D7 D8 9 10 D11
8 bit D/A CONVERTER
Ch2
8 bit Latch
Address Decoder
(8)
(12)
D-A
L
1
12
11
8 bit Latch
Ch3
8 bit D/A CONVERTER
4 5 6 7 8 9 10
Buffer
① Vss (VrefL)
② Ao3
③ Ao4
④ Ao5
⑤ Ao6
⑥ Ao7
⑦ Ao8
⑧ Ao9
⑨ Ao10
⑩ VDD (VrefU)

■ NJM78M05DL1A-X [JRC]
(3-Terminal Positive Voltage Regulator (+5V))


IN
GND
OUT
NJM7800A
IN
GND
OUT
NJM7800FA
2
3
1
NJM7800DLA
1. IN
2. GND
3. OUT
2
3
1
NJM7800DL1A
1.IN
2.GND
3.OUT



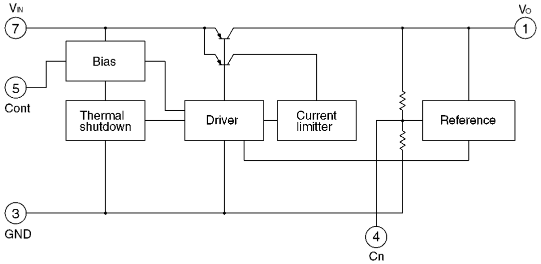
■ MM1565AF-X [MITSUMI]
(500mA Regulator (5V))



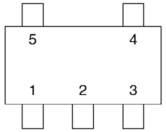
(TOP VIEW)

1	V_O
2	NC
3	GND
4	Cn
5	CONT
6	Sub
7	V_{IN}

Block Diagram


VIN
⑦
VO
①
Bias
⑤
Cont
Thermal shutdown
Driver
Current limitter
Reference
③
GND
④
Cn

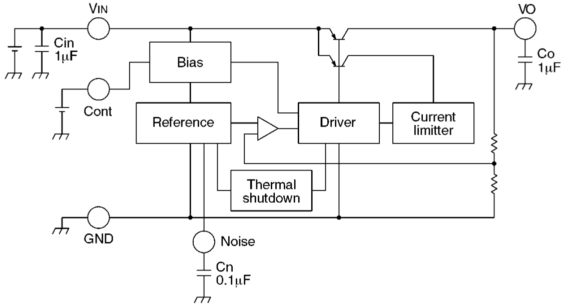
■ MM1571JN-X [MITSUMI]
(1.8V Regulator)



SOT-25A
(TOP VIEW)

1	V_{IN}
2	GND
3	Cont
4	Noise
5	V_O

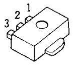
Block Diagram


VIN
Cin 1μF
Bias
Cont
Reference
Driver
Current limitter
Thermal shutdown
VO
Co 1μF
GND
Noise
Cn 0.1μF

■ MM1572FN-X [MITSUMI]
(Refer to MM1571JN-X.)

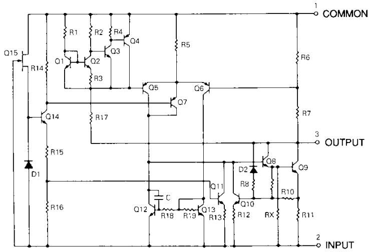
■ MM1572KN-X [MITSUMI]
(Refer to MM1571JN-X.)

■ NJM79L05UA-X [JRC]
(3-Terminal Negative Voltage Regulator (-5V))

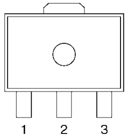


1. COMMON
2. IN
3. OUT

NJM79L00UA


1 COMMON
3 OUTPUT
2 INPUT
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Q10
Q11
Q12
Q13
Q14
Q15
R1
R2
R3
R4
R5
R6
R7
R8
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
RX
D1
D2
C

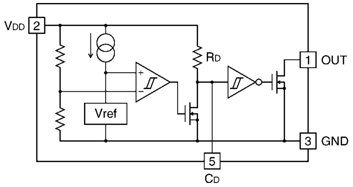
■ NJU7222U30-X [JRC]
(3-Terminal Positive Voltage Regulator)



1. GND
2. INPUT
3. OUTPUT

■ RN5VD26AA-X [RICHO]
(Voltage detector)

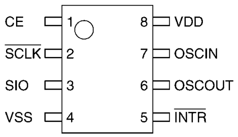
Block diagram


VDD
2
RD
1
OUT
Vref
3
GND
5
CD

Pin descriptions

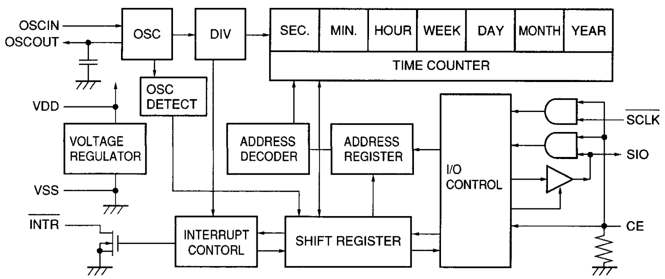
Pin Number	Pin Name	Pin Description
1	OUT	Output terminal
2	VDD	Power supply terminal
3	GND	Ground terminal
4	NC	Not connect
5	CD	External capacitor connecting terminal for delay

■ RS5C314-X [RICHO]
(CMOS Realtime Clock)

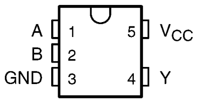

CE
1
8
VDD
SCLK
2
7
OSCIN
SIO
3
6
OSCOUT
VSS
4
5
INTR

(Top view)

Block diagram


OSCIN
OSCOUT
OSC
DIV
SEC.
MIN.
HOUR
WEEK
DAY
MONTH
YEAR
TIME COUNTER
OSC DETECT
VDD
VOLTAGE REGULATOR
ADDRESS DECODER
ADDRESS REGISTER
I/O CONTROL
SCLK
SIO
VSS
INTR
INTERRUPT CONTORL
SHIFT REGISTER
CE

■ SN74AHC1G00K-X [TEXAS INSTRUMENTS]
(Single 2-Input Positive NAND Gate)

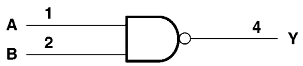

A
1
5
VCC
B
2
GND
3
4
Y

(TOP VIEW)

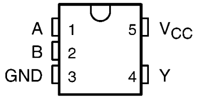
FUNCTION TABLE

INPUTS		OUTPUT
A	B	Y
H	H	L
L	X	H
X	L	H

Logic diagram (positive logic)



■ SN74AHC1G32K-X [TEXAS INSTRUMENTS]
(Single 2-Input Positive OR Gate)

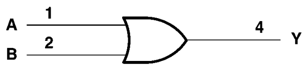

A
1
5
VCC
B
2
GND
3
4
Y

(TOP VIEW)

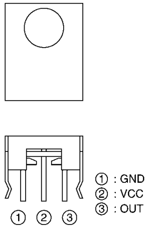
FUNCTION TABLE

INPUTS		OUTPUT
A	B	Y
H	X	H
X	H	H
L	L	L

Logic diagram (positive logic)



■ SBX3071-52 [SONY]
(Remote Control Receiver)


① : GND
② : VCC
③ : OUT
①
②
③

Block Diagram

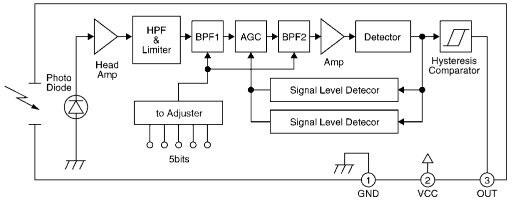
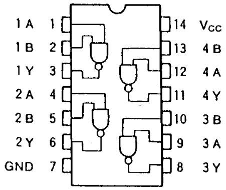


Photo Diode
Head Amp
HPF & Limiter
BPF1
AGC
BPF2
Amp
Detector
Hysteresis Comparator
Signal Level Detecor
Signal Level Detecor
to Adjuster
5bits
① GND
② VCC
③ OUT

■ SN74AHC00PW-X [TEXAS INSTRUMENTS]
(Quad 2-Input NAND Gates)

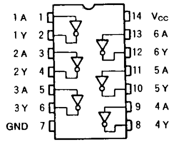

1A 1
1B 2
1Y 3
2A 4
2B 5
2Y 6
GND 7
14 VCC
13 4B
12 4A
11 4Y
10 3B
9 3A
8 3Y

(TOP VIEW)

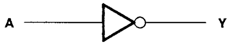
TRUE Table

A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L

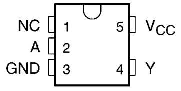
■ SN74AHC04PW-X [TEXAS INSTRUMENTS]
(Hex Inverters)


1A 1
1Y 2
2A 3
2Y 4
3A 5
3Y 6
GND 7
14 Vcc
13 6A
12 6Y
11 5A
10 5Y
9 4A
8 4Y

(TOP VIEW)



■ SN74AHC1GU04K-X [TEXAS INSTRUMENTS]
(Single Inverter Gate)

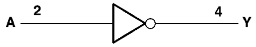

NC
1
5
VCC
A
2
GND
3
4
Y

(TOP VIEW)

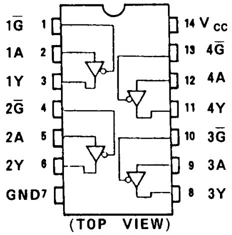
NC – No internal connection

FUNCTION TABLE

INPUT	OUTPUT
A	Y
H	L
L	H



■ SN74AHCT125PW-X [TEXAS INSTRUMENTS]
(Quad Bus Buffer Gates With 3-State Outputs)


1G 1
1A 2
1Y 3
2G 4
2A 5
2Y 6
GND 7
14 Vcc
13 4G
12 4A
11 4Y
10 3G
9 3A
8 3Y

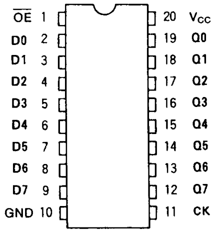
(TOP VIEW)

TC74HC125A TRUE Table

INPUTS		OUTPUTS
G	A	Y
H	X	Z
L	L	L
L	H	H

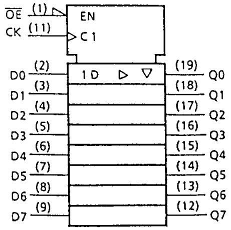
X : Don't Care
Z : High Impedance

■ SN74AHC574PW-X [TEXAS INSTRUMENTS]
(Octal D-Type EDGE-Trigger Flip-Flop With NON Inverted 3-State Outputs)


OE 1
D0 2
D1 3
D2 4
D3 5
D4 6
D5 7
D6 8
D7 9
GND 10
20 Vcc
19 Q0
18 Q1
17 Q2
16 Q3
15 Q4
14 Q5
13 Q6
12 Q7
11 CK

(TOP VIEW)

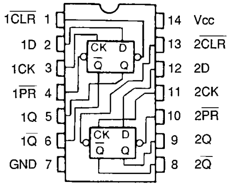
Logic


OE (1)
CK (11)
EN
C1
1D
D0 (2)
D1 (3)
D2 (4)
D3 (5)
D4 (6)
D5 (7)
D6 (8)
D7 (9)
(19) Q0
(18) Q1
(17) Q2
(16) Q3
(15) Q4
(14) Q5
(13) Q6
(12) Q7

INPUTS			OUTPUT
$\overline{OE}$	CK	D	
H	X	X	Z
L	↓	X	Qn
L	↑	L	L
L	↑	H	H

X : Don't Care
Z : High Impedance
Qn : No Change

■ SN74AHC74PW-X [TEXAS INSTRUMENTS]
(Dual D-Type Flip-Flop with Preset and Clear)


1CLR 1
1D 2
1CK 3
1PR 4
1Q 5
1Q 6
GND 7
14 Vcc
13 2CLR
12 2D
11 2CK
10 2PR
9 2Q
8 2Q
CK D
Q Q
CK D
Q Q

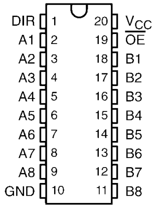
(Top View)

TRUE Table

INPUTS				OUTPUTS		FUNCTION
$\overline{CLR}$	$\overline{PR}$	D	CK	Q	$\overline{Q}$	
L	H	X	X	L	H	CLEAR
H	L	X	X	H	L	PRESET
L	L	X	X	H	H	—
H	H	L	↑	L	H	—
H	H	H	↑	H	L	—
H	H	X	L	Q_n	$\overline{Q}_n$	NO CHANGE

X : Don't care

■ SN74AHC245DGV-X [TEXAS INSTRUMENTS]
(Octal Bus Transceivers with 3-State Outputs)

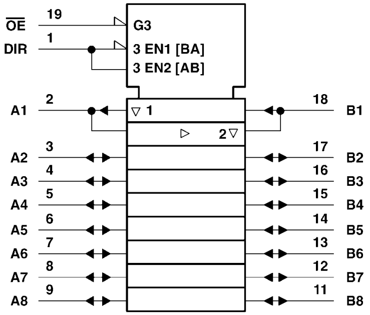

DIR 1
A1 2
A2 3
A3 4
A4 5
A5 6
A6 7
A7 8
A8 9
GND 10
20 VCC
19 OE
18 B1
17 B2
16 B3
15 B4
14 B5
13 B6
12 B7
11 B8

(TOP VIEW)

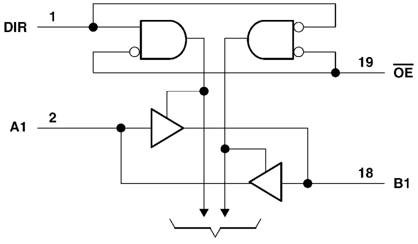
FUNCTION TABLE
(each transceiver)

INPUTS		OPERATION
$\overline{OE}$	DIR	
L	L	B data to A bus
L	H	A data to B bus
H	X	Isolation

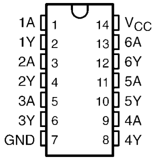
Logic symbol


OE 19
DIR 1
G3
3 EN1 [BA]
3 EN2 [AB]
A1 2
▽ 1
2▽
18 B1
A2 3
A3 4
A4 5
A5 6
A6 7
A7 8
A8 9
17 B2
16 B3
15 B4
14 B5
13 B6
12 B7
11 B8

Logic diagram (positive logic)


DIR 1
19 OE
A1 2
18 B1
To Seven Other Channels

■ SN74AHCT04PW-X [TEXAS INSTRUMENTS]
(Hex Inverters)

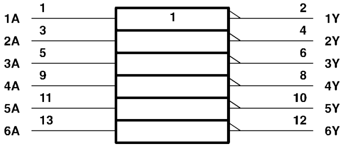

1A 1
1Y 2
2A 3
2Y 4
3A 5
3Y 6
GND 7
14 VCC
13 6A
12 6Y
11 5A
10 5Y
9 4A
8 4Y

(TOP VIEW)

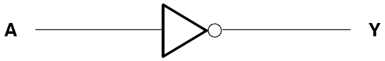
FUNCTION TABLE
(each inverter)

INPUT A	OUTPUT Y
H	L
L	H

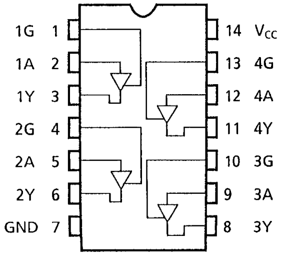
Logic symbol


1A 1
2A 3
3A 5
4A 9
5A 11
6A 13
1
2 1Y
4 2Y
6 3Y
8 4Y
10 5Y
12 6Y

Logic diagram, each inverter (positive logic)



■ SN74LV126ADGV-X [TEXAS INSTRUMENTS]
(Bus Buffer Gates with 3-State Output)

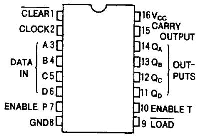

1G 1
1A 2
1Y 3
2G 4
2A 5
2Y 6
GND 7
14 Vcc
13 4G
12 4A
11 4Y
10 3G
9 3A
8 3Y

(TOP VIEW)

INPUTS		OUTPUTS
G	A	Y
L	X	Z
H	L	L
H	H	H

X: Don't Care
Z : High Impedance

■ SN74HC161APW-X [TEXAS INSTRUMENTS]
(Synchronous 4-Bit Counters Binary, Direct Clear)


CLEAR 1
CLOCK 2
A 3
B 4
C 5
D 6
DATA IN
ENABLE P 7
GND 8
16 Vcc
15 CARRY OUTPUT
14 QA
13 QB
12 QC
11 QD
OUT-PUTS
10 ENABLE T
9 LOAD

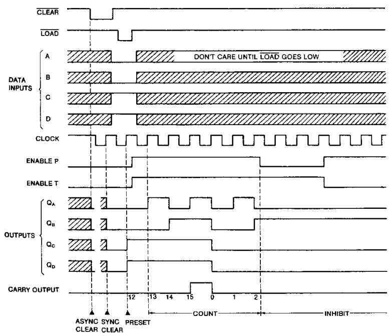
(TOP VIEW)

- THRU TABLE

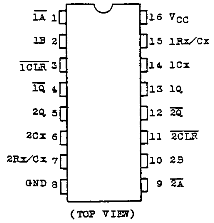
INPUTS					OUTPUTS				FUNCTION
$\overline{CLR}$	$\overline{LD}$	ENP	ENT	CK	Q_A	Q_B	Q_C	Q_D	
L	X	X	X	X	L	L	L	L	Reset to "0"
H	L	X	X	↑	A	B	C	D	Preset Data
H	H	X	L	X	No change				Do not count
H	H	L	X	X	No change				Do not count
H	H	H	H	↑	Count up				Count

Note X : Don't care
A,B,C,D : Logic level of input data
Carry : CARRY=ENT·Q_A·Q_B·Q_C·Q_D

Timing chart



■ TC74VHC221AFT-X [TOSHIBA]
(Dual Monostable Multivibrators (With Schmitt Trigger Input))


$\overline{1A}$ 1
1B 2
$\overline{1CLR}$ 3
$\overline{1Q}$ 4
2Q 5
2Cx 6
2Rx/Cx 7
GND 8
16 V_{CC}
15 1Rx/Cx
14 1Cx
13 1Q
12 $\overline{2Q}$
11 $\overline{2CLR}$
10 2B
9 $\overline{2A}$

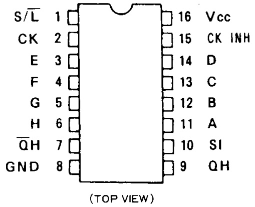
(TOP VIEW)

True Table

INPUTS			OUTPUTS		NOTE
$\overline{A}$	B	CL	Q	$\overline{Q}$	
↓	H	H	⎍	⊔	OUTPUT ENABLE
X	L	H	L	H	INHIBIT
H	X	H	L	H	INHIBIT
L	↑	H	⎍	⊔	OUTPUT ENABLE
L	H	↑	⎍	⊔	OUTPUT ENABLE
X	X	L	L	H	INHIBIT

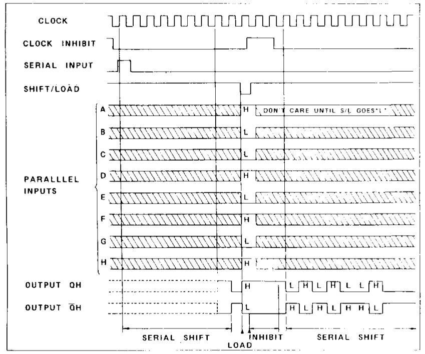
X : DON'T CARE

■ SN74LV165ADGV-X [TEXAS INSTRUMENTS]
(8-Bit Serial or Parallel-In/Serial Out Shift Registers)


S/$\overline{L}$ 1
CK 2
E 3
F 4
G 5
H 6
$\overline{QH}$ 7
GND 8
16 Vcc
15 CK INH
14 D
13 C
12 B
11 A
10 SI
9 QH

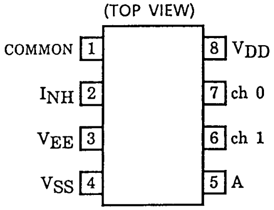
(TOP VIEW)

Timing chart



■ TC4W53FU-X [TOSHIBA]
(2-Channel Multiprexer)

(TOP VIEW)


COMMON 1
I_{NH} 2
V_{EE} 3
V_{SS} 4
8 V_{DD}
7 ch 0
6 ch 1
5 A

Truth table

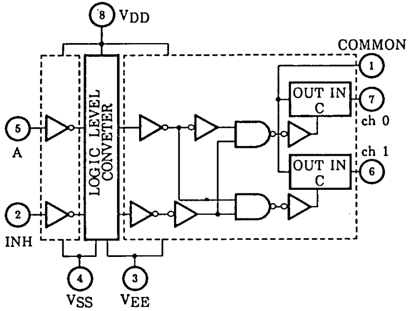
CONTROL C	IMPEDANCE BETWEEN IN-OUT ※
H	0.5~5×10^2Ω
L	>10^9Ω

※ Don't Care

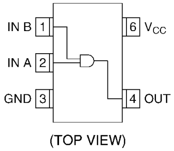
Truth table

CONTROL INPUT		ON CHANNEL
INH	A	
L	L	ch 0
L	H	ch 1
H	※	NONE

※ Don't Care


⑧ VDD
COMMON
①
⑤
A
LOGIC LEVEL CONVETER
OUT IN
C
⑦
ch 0
ch 1
OUT IN
C
⑥
②
INH
④
VSS
③
VEE

■ TC7SET08F-X [TOSHIBA]
(2-input AND GATE)

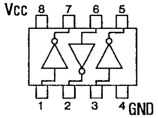

IN B 1
IN A 2
GND 3
6 V_{CC}
4 OUT Y

(TOP VIEW)

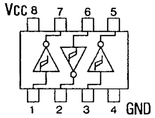
TRUTH TABLE

A	B	Y
L	L	L
L	H	L
H	L	L
H	H	H

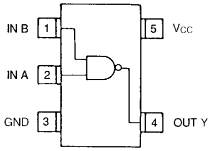
■ TC7W04F-X [TOSHIBA]
(Triple Inverter Gate)


Vcc 8
7
6
5
1
2
3
4 GND

■ TC7W14FU-X [TOSHIBA]
(Schmitt Trigger Triple Inverte Gate)

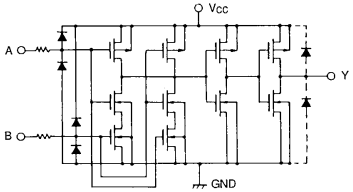

Vcc 8
7
6
5
1
2
3
4 GND

■ TC7SH00FU-X [TOSHIBA]
(2-Input NAND Gate)

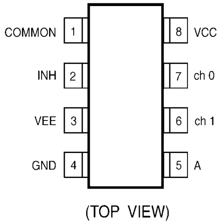

IN B 1
IN A 2
GND 3
5 Vcc
4 OUT Y

TRUE Table

A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L



■ TC7W53FU-X [TOSHIBA]
(2-Channel Multiplexer/Demultiplexer)


COMMON 1
INH 2
VEE 3
GND 4
8 VCC
7 ch 0
6 ch 1
5 A

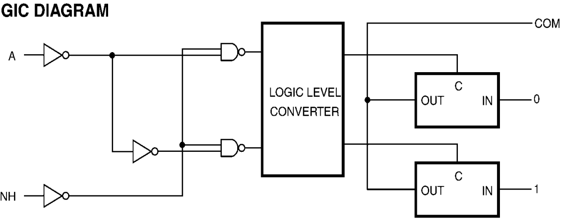
(TOP VIEW)

TRUTH TABLE

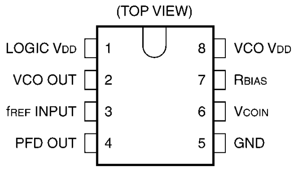
CONTROL INPUT		ON CHANNEL
INH	A	
L	L	ch 0
L	H	ch 1
H	x	NONE

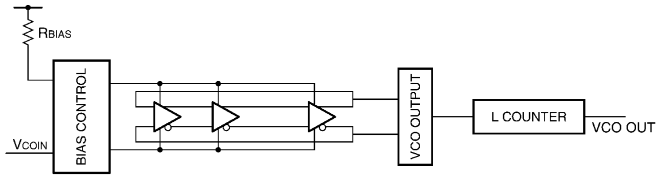
x : Don't care

LOGIC DIAGRAM

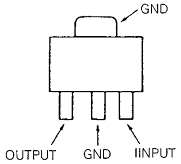

A
INH
LOGIC LEVEL CONVERTER
COM
C
OUT IN
0
C
OUT IN
1

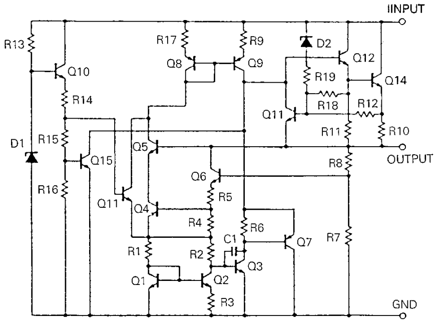
■ TLC2940IPW-X [TEXAS INSTRUMENTS]
(75MHz CMOS VCO)


(TOP VIEW)
LOGIC VDD 1
VCO OUT 2
fREF INPUT 3
PFD OUT 4
8 VCO VDD
7 RBIAS
6 VCOIN
5 GND

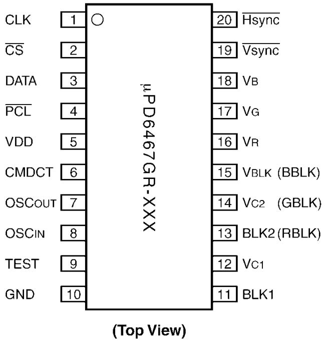

RBIAS
VCOIN
BIAS CONTROL
VCO OUTPUT
L COUNTER
VCO OUT

■ UPC78L05T-W [NEC]
(3-Terminal Positive Voltage Regulator (+5V))

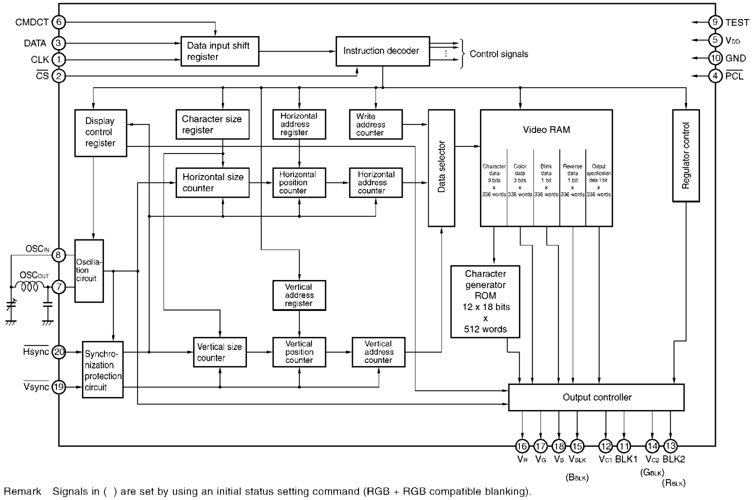

GND
OUTPUT
GND
IINPUT


IINPUT
R13
Q10
R14
D1
R15
Q15
R16
Q11
R17
Q8
R9
Q9
D2
Q12
R19
R18
Q11
R12
Q14
R11
R10
Q5
OUTPUT
R8
Q6
R5
Q4
R4
R6
C1
Q7
R7
R1
R2
Q3
Q1
Q2
R3
GND

■ UPD6467GR-519-X [NEC]
(ON-SCREEN CHARACTER DISPLAY)


CLK 1
$\overline{\text{CS}}$ 2
DATA 3
$\overline{\text{PCL}}$ 4
VDD 5
CMDCT 6
OSCOUT 7
OSCIN 8
TEST 9
GND 10
μPD6467GR-XXX
20 $\overline{\text{Hsync}}$
19 $\overline{\text{Vsync}}$
18 VB
17 VG
16 VR
15 VBLK (BBLK)
14 VC2 (GBLK)
13 BLK2 (RBLK)
12 VC1
11 BLK1
(Top View)

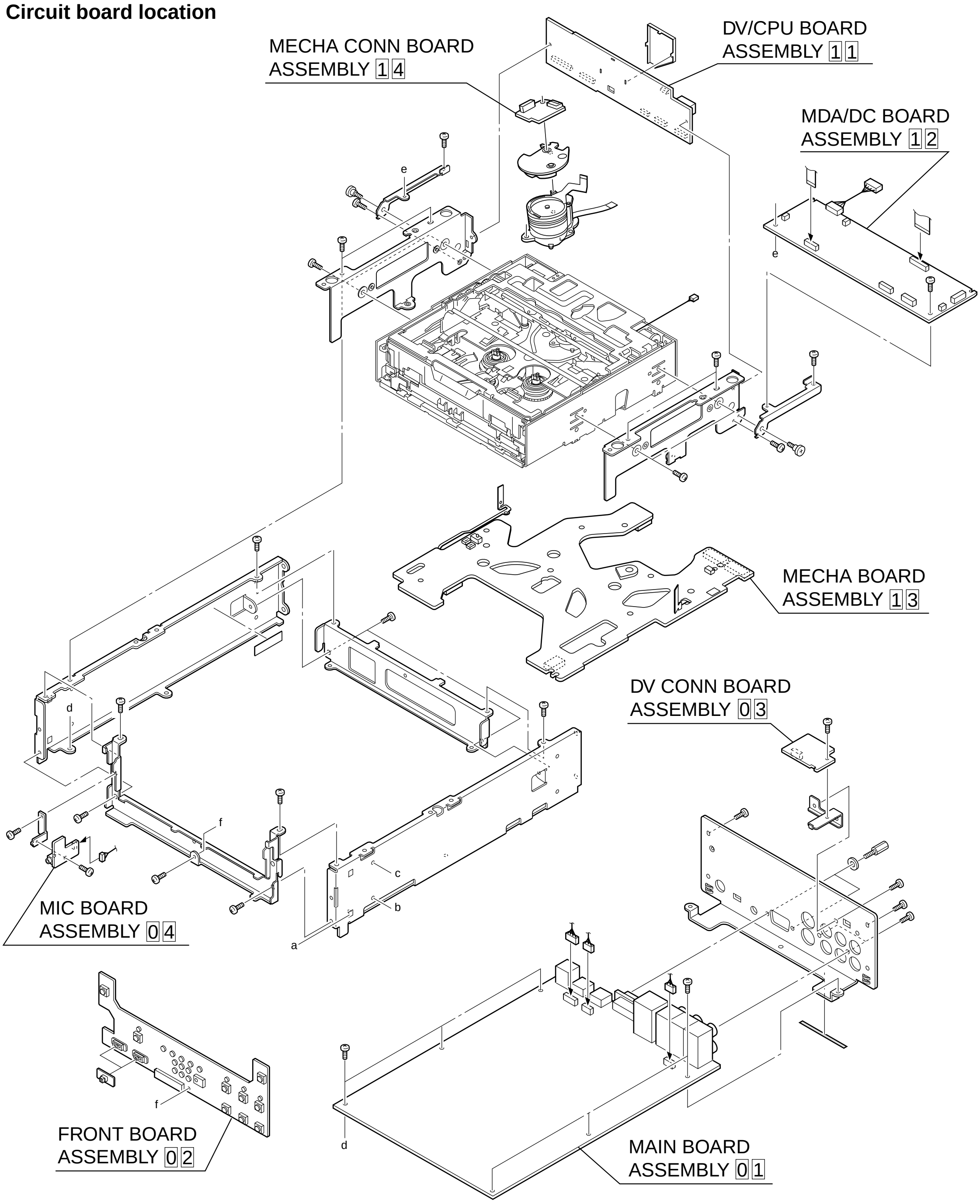
BLOCK DIAGRAM


CMDCT 6
DATA 3
CLK 1
$\overline{\text{CS}}$ 2
Data input shift register
Instruction decoder
Control signals
9 TEST
5 VDD
10 GND
4 $\overline{\text{PCL}}$
Display control register
Character size register
Horizontal address register
Write address counter
Data selector
Video RAM
Character data 9 bits x 336 words
Color data 3 bits x 336 words
Blink data 1 bit x 336 words
Reverse data 1 bit x 336 words
Output specification data 1 bit x 336 words
Regulator control
Horizontal size counter
Horizontal position counter
Horizontal address counter
OSCIN 8
OSCOUT 7
Oscilla-tion circuit
Vertical address register
Character generator ROM 12 x 18 bits x 512 words
$\overline{\text{Hsync}}$ 20
$\overline{\text{Vsync}}$ 19
Synchro-nization protection circuit
Vertical size counter
Vertical position counter
Vertical address counter
Output controller
16 VR
17 VG
18 VB
15 VBLK
12 VC1
11 BLK1
14 VC2
13 BLK2
(BBLK)
(GBLK)
(RBLK)

Remark Signals in ( ) are set by using an initial status setting command (RGB + RGB compatible blanking).

5.1 INDEX TO PAGES OF MAIN BOARDS AND CIRCUIT BOARD LOCATION

5.1.1 Circuit board location


MECHA CONN BOARD ASSEMBLY 14
DV/CPU BOARD ASSEMBLY 11
MDA/DC BOARD ASSEMBLY 12
MECHA BOARD ASSEMBLY 13
DV CONN BOARD ASSEMBLY 03
MIC BOARD ASSEMBLY 04
FRONT BOARD ASSEMBLY 02
MAIN BOARD ASSEMBLY 01
e
e
d
f
c
b
a
f
d

Board No.	Board Name	Page of diagram		
		Block diagram	Schematic diagram	Circuit board
01	MAIN	5-2, 5-3, 5-4	5-7 to 5-12	5-13, 5-14
02	FRONT	—	5-25	5-26
03	DV CONN	—	5-25	5-26
04	MIC	5-4	5-25	5-26
11	DV/CPU	5-2, 5-4	5-15 to 5-18	5-19
12	MDA/DC	—	5-21 to 5-24	5-20
13	MECHA	—	5-27	5-28, 5-29
14	MECHA CONN	—	5-27	5-29